Unit One (Ch 1-2)

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Chapter 1

What is Economics?

Economics is the social science that studies the choices that individuals, businesses, governments, and entire societies make as they cope with the scarcity and incentives that influence and reconcile these choices.

Scarcity is defined as our inability to get everything that we want. Scarcity is universal, it confronts all living things.

Incentives are rewards that encourage actions or penalties that discourage actions.

Economics can be divided into two parts:

Microeconomics - the study of the choices that individuals and businesses make, the way these choices interact in markets, and the influence of governments.

Macroeconomics - The study of the performance and the national and global economy.

What, How, and for Whom?

What?

What we produce varies from country to country and changes over time. For example, goods produced in China are different than goods produced in Canada.

How?

How we produce involves the technologies and resources used. The resources are called factors of production.

Factors of Production:

Land - natural resources

Labour - time and effort devoted to producing goods. Includes physical and mental efforts. Quality of labour depends on human capital (knowledge, skill, training, experience, education)

Capital - tools, instruments, equipment, machinery, buildings, and financial capital required for production.

Entrepreneurship - human resource that organizes labour, land, and capital.

For Whom?
Who consumes goods and services depends on income. People with large incomes can consume a wide variety of goods and services. Whereas people with small incomes have fewer options. Income is earned by selling the services of factors of production. (Land earns rent, labour earns wages, capital earns interest, entrepreneurship earns profits)

Self Interest vs Social Interest

Self interest
A decision is in your self interest if you make the choice that is the best one available for you.

Social Interest
An outcome is in the social interest if it is best for society as a whole. Choices are in the social interest they make everyone better off, there are no losers.

Efficiency
Efficiency is used to describe a situation that can't be better off, it is not possible to make one person better off without making one person worse off. If it is, the situation is inefficient.

Fair Shares
There is a deeply held idea that that social interest requires fair shares. But what is fair? Almost everyone agrees that too much inequality (income, wealth, etc.) is unfair. But how much is too much? Examined further in chapters 2 and 5.

Globalization
Globalization is the expansion of international trade, borrowing and lending, and investment. Globalization is in the self-interest of consumers that purchase low cost goods, and in the self-interest of multinational firms. However, it is not in the social interest because it is not in the self-interest of low wage workers in 3rd world countries.

Information Age Monopolies
The information revolution is in the self interest of monopolies such as microsoft and in the self interest of consumers that can afford the products. However it may not be in the social interest as some consumers do not have the ability to afford the products because the monopolies set prices so high.

Climate Change
Everyday we make choices that are in our self interest like using gasoline

or electricity. However these choices are not in the social interest because they greatly affect the health of the environment.

Economic Instability
When banks are in trouble, or the economy is unstable, they take deposits and lend money. These choices are in the self interest of the bank but the banks pursuit of profits may not be in the social interest.

The Economic Way of Thinking

A Choice is a Tradeoff
When you make a choice it is a tradeoff, you are giving up one thing to do another. Ex, choosing to hangout with your friends or choosing to study, you can't do both at the same time, so you face a tradeoff.

Making a Rational Choice
A rational choice is one that compares costs and benefits and achieves the greatest benefit over cost for the person making the choice. Only the wants of the person making the choice are relevant in its rationality.

Benefit
The benefit of something is the gain or pleasure it brings and is determined by individual preferences. Economists measure benefit as the most that a person is willing to give up to get something.

Cost
When talking about costs, economists use the term opportunity cost. Opportunity cost is the highest valued alternative that must be given up to get something. Most opportunity costs involve choosing how much of an activity to do.

How Much? The Margin
When you make a choice, you study its benefits and costs, and you make a choice at the margin. The benefit that arises from an increase in activity is a marginal benefit. The opportunity cost of an increase in an activity is a marginal cost. When making choices, you choose the activity in which marginal benefit outweighs marginal cost.

Economics as Social Science

Positive Statements
A positive statement is a statement about what is, and can be proven right or wrong with facts.

Normative Statement
A normative statement is statement about what ought to be, people may

agree or disagree with the statement, but it cannot be proven or tested.

Economic Model
An economic model is a description of some aspect of the economic world that includes only those features that are needed for the purpose at hand.

Chapter 2

Production Possibilities and Opportunity Cost

The production possibility frontier (PPF) is the boundary between a combination of goods and services that can be produced and those that cannot.

Production Possibility Frontier

The PPF shows the limits to the production of two goods, given the total resources and technologies available to produce them. The PPF illustrates scarcity because the points outside the frontier are unattainable. These points describe wants that cannot be satisfied. We can produce at any point on or inside the PPF, these points are attainable.

Production Efficiency

We achieve productive efficiency if we produce goods and services at the lowest possible cost. This outcome occurs at all points on the PPF. At points inside the PPF, production is inefficient. Production is either inefficient because resources are unused (idle when could be working) or misallocated (assigned to a task for which they are not the best match).

Tradeoff Along the PPF

A choice along the PPF involves a tradeoff. We can employ resources and factors of production to produce goods, but we are still limited to what we can produce.

Opportunity Cost

Opportunity cost is the highest valued alternative forgone.

Ratio

Because opportunity cost is a ratio, the opportunity cost of producing one good is equal to the inverse of the opportunity cost of producing the other good.

Increasing Opportunity Cost

An outward bowed shape of the PPF indicates an increasing opportunity cost.

Using Resources Efficiently

We achieve production efficiency at every point on the PPF. The point on the PPF where goods and services are produced in quantities that provide the

greatest possible benefit is allocative efficiency.

The PPF and Marginal Cost

The marginal cost of a good is the opportunity cost of producing one more unit of it. We can calculate marginal cost from the slope of the PPF.

Preferences and Marginal Benefit

The marginal benefit from a good or service is the benefit received from one more unit of it. Marginal benefit and preferences stand in sharp contrast to marginal cost and production possibilities. The device used to illustrate preferences is the marginal benefit curve, a curve that shows the relationship between the marginal benefit of a good and the quantity consumed (unrelated to PPF). Because marginal benefit is the amount people are willing to pay for one additional unit, marginal benefit decreases as quantity increases. When marginal benefit equals marginal cost, resources are being used efficiently.

Allocative Efficiency

Allocative efficiency occurs when we are producing at a point of the PPF at which we cannot produce more of one good without giving up some other good that provides greater benefit.

Economic Growth

The expansion of production possibilities is economic growth. Economic growth increases standard of living, but it doesn't overcome scarcity or avoid opportunity cost. The faster production grows, the greater the opportunity cost of economic growth.

The Cost of Economic Growth

Economic growth comes from technological and capital accumulation. Technological change is the development of new goods and of better ways of producing goods and services. Capital accumulation is the growth of capital resources, including human capital. The amount by which the PPF expands depends on the resources devoted to technological change and capital accumulation.

Gains From Trade

Producing only one good or a few goods is known as specialization. People gain by specializing in the production of goods for which they have a comparative advantage.

Comparative and Absolute Advantage

A person has a comparative advantage in an activity if that person can perform the activity at a lower opportunity cost than anyone else. A person has an absolute advantage if they are generally more productively efficient than others.

Economic Coordination

Firms

A firm is an economic unit that hires factors of production and organizes them to produce and sell goods and services.

Markets

A market is any arrangement that enables buyers and sellers to get information and to do business with each other.

Property Rights

The social arrangements that govern the ownership, use, and disposal of anything that people value are called property rights. Real property includes land and buildings. Financial Property includes stocks and bonds and money in the bank. Intellectual property is the intangible product of creative effort and includes books, music, inventions, protected by copyrights and patents.

Money

Money is any commodity or token that is generally acceptable as a means of payment.

Circular Flow and Coordinating Decisions

Trading in markets for goods and services and factors of production creates a circular flow of expenditures and incomes. Markets coordinate decisions through price adjustments.

Unit Two (Ch 3-5)

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Chapter 3
Markets and Prices

A market has two sides, buyers and sellers. There are markets for goods, services, factors of production, money, financial securities, etc. Some markets are physical places where buyers and sellers meet. Other markets are groups of people spread across the globe. Most markets are an unorganized collection of buyers and sellers. Markets vary in the intensity of competition that buyers and sellers face. In this chapter, we study a competitive market, one with many buyers and sellers so that no one person can influence price. In everyday life, the price of an object is known as the money price. Economists look at relative price. To calculate relative price, divide the money price of one good by the money price of another and find the ratio of one price to the other. Relative price is an opportunity cost.

Demand

If you demand something then you: want it, can afford it, and plan to buy it. The quantity demanded of a good or service is the amount that consumers plan to buy at a specific price over a given period of time.

The Law of Demand

The law of demand states that other things remaining the same, the higher the price of a good, the smaller the quantity demanded, and the lower the price of a good, the higher the quantity demanded.

Substitution Effect

When the price of a good rises, its relative price compared to other good rises. Because goods have substitutes, if the relative price of a good rises, consumers will choose substitutes thus decreasing demand.

Income Effect

When the price of a good rises, its price rise relative to income. Faced with higher prices and an unchanged income, people cannot afford to buy all the things they previously bought, thus decreasing demand.

Demand Curve and Demand Schedule

The term demand refers to the entire relationship between the price of a good and the quantity demanded of that good. This is illustrated by a demand curve and schedule. The term quantity demanded refers to a point on a demand curve, the quantity demanded at a given price. A

demand curve shows the relationship between quantity demanded of a good and its price when all other things remain the same. A demand schedule lists the quantities demanded at each price.

Willingness and Ability to Pay

The willingness and ability to pay is a measure of marginal benefit. If a small quantity is available, consumers will be willing to pay a higher price than they would if a large quantity was available.

A Change in Demand

A change in demand occurs when any factor that influences a consumers buying plans **other than the price of the good** changes. An increase in demand shifts the demand curve rightward, decrease shifts leftward.

Prices of Related Goods

Prices of related goods affect demand. If the price of a substitute rises, demand increases. If the price of a substitute falls, demand decreases. If the price of a compliment rises, demand decreases, if the price of a compliment falls, demand increases.

Expected Future Prices

If the expected future price of a good rises, current demand will rise as long as the good can be stored. If the expected future price of a good falls, current demand will fall as people will wait until the price falls to purchase the good.

Income

Consumer income plays a role in demand. When income increases, consumers buy more of most goods, when income decreases, consumers buy less of most goods. A normal good is one for which demand increases as income increases. An inferior good Is one for which demand decreases as income increases.

Expected Future Income and Credit

When expected future income increases or credit becomes easier to obtain, demand might for a good might increase now.

Population

Demand also depends on the size and age of population. The larger the population, the greater the demand for all goods and services, the smaller the population, the smaller the demand.

Preferences

Demand depends on preferences as preferences determine the value that people place on goods and services.

Change in Demand vs Change in Quantity Demanded

A change in demand with shift the demand curve left or right. Whereas a change in quantity demanded will result in a movement along the demand curve. A price change is reflected in a change in quantity demanded whereas a change of any factor other than price results in a change in demand.

Supply

If a firm supplies goods or services they: have the resources to produce it, can profit from producing it, plan to produce and sell it. Quantity supplied is the amount that the company plans to produce and sell at a specific price over a given period of time.

Law of Supply

The higher the price of a good, the greater the quantity supplied, the lower the price of a good, the smaller the quantity supplied.

Supply Curve and Schedule

The supply curve shows the relationship between the quantity supplied of a good and its price when all other things remain the same. A supply schedule lists the quantities supplied at each price.

Minimum Supply Price

Minimum supply price is the lowest price at which someone is willing to sell. At low quantities, minimum supply price is low, at high quantities minimum supply price is high.

Change in Supply

When any factor other than a change in price influences selling plans, there is a change in supply.

Prices of Factors of Production

If the prices of factors of production rise, the lowest price that someone is willing to sell at increases, so supply decreases. If the price of factors of production falls, supply increases.

Prices of Related Goods Produced

If the price of a substitute good rises, firm will switch to that good and supply will increase. If the price of a compliment good rises, firms will increase supply.

Expected Future Prices

If the expected future price of good rises, supply today decreases and future supply increases.

Number of Suppliers
The higher the number of suppliers, the greater the supply.

Technology
If a technology change occurs that lowers the price of producing a good, supply will increase.

State of Nature
Good weather can increase supply of agricultural products, bad weather can decreases them. Extreme natural disasters such as earthquakes, tornadoes, hurricanes can also influence supply.

Change in Supply vs Change in Quantity Supplied
A change in supply occurs when any factor other than price change influences selling plans and results in a rightward or leftward shift of the supply curve. A change in quantity supplied occurs when the price of a good changes, resulting in a movement along the supply curve.

Market Equilibrium

Equilibrium is a situation in which opposing forces balance each other. Market equilibrium occurs when the price balances selling plans and buying plans. This is known as the equilibrium price. The equilibrium quantity is the quantity bought and sold at the equilibrium price.

Price as a Regulator
The price of a good regulate supply and demand. If the price of a good is too high, supply exceeds demand resulting in a surplus. If the price of a good is too low, demand exceeds supply resulting in a shortage.

Price Adjustments
Shortages in the market force the price up, surplus in the market forces the price down. Equilibrium is the best deal for both buyers and sellers, buyers pay the highest price they are willing to pay and sellers receive the lowest price at which they are willing to sell.

Predicting Changes in Price and Quantity

When demand increases, price rises and quantity increases. When demand decreases, prices fall and quantity decreases. When supply increases, the price falls and the quantity increases. When supply falls, the price rises and the quantity decreases.

Changes in Both Supply and Demand
When both supply and demand change in the same direction, the equilibrium quantity changes in the same direction. If demand

changes by more than supply, price rises. If supply changes by more than demand, price falls.

When supply and demand change in opposite directions, if demand changes by more than supply, the equilibrium quantity changes in the same direction as demand. If supply increases by more than demand, the equilibrium quantity changes in the same direction as supply.

Chapter 4
Price Elasticity of Demand

The price elasticity of demand is a units-free measure of the responsiveness of the quantity demanded of a good to a change in its price when all other influences remain the same.

Calculating Price Elasticity of Demand

Price elasticity of demand = % change in quantity demanded/% change in price

To calculate % change in quantity demanded we divide the change in quantity by the average quantity and express as percentage. **Ex. 5/((20+ 25)/2) = 22.22%**

To calculate % change in price we divide the change in price by the average price and express as a percentage. **Ex. 3/((6+9)/2) = 40%**

Price Elasticity of demand: 22.22%/40% = 0.56

Inelastic and Elastic Demand

If the quantity demanded of a good remains constant than it has a price elasticity of 0, and the good is said to have a perfectly inelastic demand.

If the percentage change in quantity equals the percentage change in price, price elasticity of demand equals 1, and the good has a unit elastic demand.

If the percentage change in quantity is less than the percentage change in price, price elasticity is less than 1, and the good has an inelastic demand.

If the quantity demanded of a good changes infinitely with regards to a small change in price, the price elasticity of demand is infinity, and the good has a perfectly elastic demand.

If the percent change in quantity is greater than the percent change in price, price elasticity of demand is greater than 1, and the good has an elastic demand.

Factors that Influence Elasticity of Demand

Closeness of Substitutes

The closer the substitutes for good, the more elastic demand is. Degree of substitutability depends on hoe narrowly or broadly a good is defined. Necessities have poor substitutes so they are inelastic. Luxuries have many substitutes so they are elastic.

Proportion of Income Spent on Good

The greater the amount of income spent on a good, the more elastic the demand for that good is.

Time Elapsed Since Price Change

The longer the time that has elapsed since a price change, the more elastic the demand for that good becomes.

Elasticity Along a Linear Demand Curve

Elasticity of demand is not the same as slope. A demand curve can have a constant slope but varying elasticity. At the midpoint of a linear demand curve, price elasticity of demand is 1. Any point above the midpoint has an elastic greater than 1 and is elastic. Any point below the midpoint has an elasticity less than 1 and is inelastic.

Total Revenue and Elasticity

If demand is elastic, a 1 percent price cut increases quantity sold by more than 1 percent, total revenue increases.
If demand is inelastic, a 1 percent price cut increases quantity sold by less than one percent, total revenue decreases.
If demand is unit elastic, a 1 percent increases the quantity sold by 1 percent and total revenue does not change.

Income Elasticity of Demand

Income elasticity of demand = % quantity demanded/%change in income

If the income elasticity of demand is positive and greater than 1, the good is normal and income elastic)
If the income elasticity of demand is positive and less than one, the good is normal and inelastic.
If income elasticity of demand is negative, the good is inferior.

Cross Elasticity of Demand

Cross elasticity of demand = % change in quantity demanded/%change in price of substitute or compliment

If cross elasticity of demand is positive, the demand and price of the other

good change in the same direction, the two goods are substitutes.
If the cross elasticity of demand is negative, demand and the price of the other good change in the opposite direction, the two goods are compliments.

Elasticity of Supply

Elasticity of supply = % change in quantity supplied/%change in price

If elasticity of supply is more than one, supply is elastic. If elasticity of supply is less than one, supply is inelastic.

Rare goods have a low or even 0 elasticity of supply. Common goods have a very high elasticity of supply.

When the price of a god changes, the immediate response of the quantity supplied is determined by the momentary supply of the good.
The response of the quantity supplied when only some of the possible adjustments to production can be made is determined by short run supply.
Most goods have an inelastic short run supply.
The response of the quantity supplied after all the technologically possible ways of adjusting supply have been exploited is determined by long run supply.
Most goods have an elastic long run supply.

Chapter 5

Resource Allocation Methods

Market Price

When a market price allocates scarce resources, the people who are willing and able to pay get the resource.

Command

A command system allocates resources by the order of someone in authority. Command system works well in firms and government facilities. However it does not work well in national economies.

Majority Rule

Majority rule allocates resources in a way that the majority of voters choose.

Contest

A contest allocates resources to a winner or group of winners.

First Come First Serve

A first come first serve system allocates resources to those who are first and line.

Lottery

Lotteries allocate resources to those who pick the winning number, draw the lucky card, or come up lucky on some other gaming system.

Personal Characteristics
When resources are allocated based on personal characteristics, the people with the right characteristics get the resources.

Force
Theft, the taking of property of others without their consent, also plays a large role in resource allocation. Both large scale organized crime and petty crime collectively allocate billions of dollars worth of resources annually.

Benefit Cost and Surplus

Resources are allocated efficiently and in the social interest when they are used in the ways that people value most.

Individual Demand and Market Demand
The relationship between the price of a good and the quantity demanded by one person is the individual demand. The relationship between the price of a good and the quantity demanded by all buyers is the market demand.

Consumer Surplus
Consumer surplus is the excess of the benefit received from a good over the amount paid for it. We can calculate consumer surplus as the marginal benefit of a good minus its price, summer over the quantity bought.

Individual Supply and Market Supply
The relationship between the price of a good and the quantity supplied by one producer is called individual supply. The relationship between the price of a good and the quantity supplied by all producers is call market supply.

Producer Surplus
When price exceeds marginal cost, the firm receives producer surplus. Producer surplus is the excess of the amount received from the sale of a good or service over the cost of producing it. We can calculate producer surplus as the price received minus the marginal cost summed over the quantity sold.

Is the Competitive Market Efficient

Efficiency of Competitive Equilibrium
Equilibrium occurs when quantity demanded equals quantity supplied. Or at the intersection of the supply and demand curves. Marginal social

benefit equals marginal social cost and allocative efficiency is achieved.

Market Failure

When a market is inefficient, we call the outcome a market failure. Underproduction and overproduction occur when total surplus is smaller than its maximum possible level. We measure this scale of inefficiency by deadweight loss, decrease in total surplus.

Sources of Market Failure

Price and Quantity Regulations

Price caps or price floors block the price adjustments that balance the quantity demanded and the quantity supplied. Quantity regulations lead to underproduction.

Taxes and Subsidies

Taxes increase the price paid by buyers, lower the prices received by sellers, and lead to underproduction. Subsidies increase the prices received by sellers and lead to overproduction.

Externalities

An externality is a cost or benefit that affects someone other than the buyer or seller. External costs result in overproduction. External benefits result in underproduction.

Public Goods and Common Resources

A public good is a good or service from which everyone benefits and no one can be excluded, lead to underproduction. A common resource is owned by no one and available to everyone, leads to overuse.

Monopoly

Monopolies produce too little and charge too much. Leading to underproduction.

High Transaction Costs

When transaction costs are high, the market may underproduce.

Alternative to the Market

Majority rule might often be used to try and improve the allocation of resources.

Is The Competitive Market Fair?

It is not fair if the result isn't fair.

It is not fair if the rules aren't fair.

Result

Main idea is that it is unfair if people's incomes are too unequal, efficiency requires equality of incomes.

Utilitarianism

Principle that states that we should strive for the greatest happiness for the greatest number of people. Income must be transferred from the rich to the poor to the point where there are no rich and no poor.

The Big Tradeoff

The tradeoff between efficiency and fairness. Because of the big tradeoff, no one says that efficiency requires equality of income.

Make the Poorest as Well Off as Possible

Theory that fair distribution of the economic pie is the one that makes the poorest person as well off as possible. Income of rich should be taxed, after costs of taxation and transferring, what is left should be transferred to the poor.

Rules

The symmetry principle is the requirement that people in similar situations be treated similarly, principle translates to equality of opportunity. 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. If these rules are followed, the result is fair. If these rules are followed, allocative efficiency takes place.

Unit Three (Ch 6-7)

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Chapter 6

A Housing Market With a Rent Ceiling

A government regulation that makes it illegal to charge a price higher than a specified level is a price ceiling or price cap. The effects of this regulation depend on whether the price cap is set above or below the equilibrium price. A price ceiling set above the equilibrium price has no effect as the force of the law and the market are not in conflict. A price ceiling set below the equilibrium price is called a rent ceiling and has powerful effects. A rent ceiling below the equilibrium rent can cause: A housing shortage, Increased search activity, A black market.

A Housing Shortage

At equilibrium price, quantity demanded equals quantity supplied. But if there is a rent ceiling below the equilibrium price, quantity demanded will exceed quantity supplied causing a shortage of housing.

Increased Search Activity

The time spent looking for someone to do business with is called search activity, and search activity is expensive. Because opportunity cost includes the money price and search activity of housing, the increased search activity to find housing to do a rent ceiling below the equilibrium price might end up causing a greater opportunity cost than if there was no regulation.

Black Market

A low rent ceiling encourages illegal trading in a black market. The black market price depends on how strictly the rent ceiling is enforced. With loose enforcement, black market price is close to what the unregulated rent would be. But with strict enforcement, the black market price is the maximum price a renter is willing to pay.

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 exceeds marginal social cost, and the deadweight loss shrinks the producer and consumer surplus.

Are Rent Ceilings Fair?

According to the rules of fairness, anything that blocks voluntary exchange isn't fair, therefore rent ceilings aren't fair. But according to the result of fairness, a

fair outcome is one that benefits the worse off. So according to this view, a fair outcome is one that allocates scarce housing to the poorest. However blocking rent doesn't eliminate scarcity. It creates an even bigger challenge in the housing market. It is hard to make a case that rent ceilings are fair because when rent adjustments are block, other resource allocation methods such as lottery, first come first serve, and discrimination operate, which are all unfair methods of allocation.

A Labour Market With a Minimum Wage

A government regulation that makes it illegal to charge a price lower than a specific 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 on the market as it attempts to prevent the price from regulating supply and demand. When a price floor is applied to a labour market, it is called minimum wage. When a minimum wage is set above the equilibrium wage, it creates unemployment.

Minimum Wage Brings Unemployment

At equilibrium wage, the quantity of labour supplied equals the quantity of labour demanded. But if minimum wage is set above the equilibrium wage, the quantity of labour supplied will exceed the quantity of labour demanded, and the surplus of labour is unemployed.

Is Minimum Wage Fair?

Minimum wage isn't fair become the outcome isn't fair, it does not allocate jobs to the least well off. And the rules aren't fair as it prevents voluntary exchange.

Inefficiency of Minimum Wage

An unregulated market allocates the economy's scarce labour resources to the jobs in which they are valued the highest, this is efficient. Minimum wage frustrates the market as the marginal social benefit of labour exceeds it marginal social cost, causing a deadweight loss shrinking the firm and worker surplus.

Taxes

Tax Incidence

Tax incidence is the division of the burden of taxes between buyers and sellers. When a tax is imposed, the price paid by buyers may rise by the full amount of the tax, by a partial amount of the tax, or not at all. If the amount paid by buyers rises by the full amount of the tax, the burden falls solely on the buyers. If it rises by a partial amount, then the burden is partially on the buyers and partially on the sellers. If the price paid by the buyer doesn't rise at all, then the burden is solely on the seller. Tax incidence does not depend on tax law.

Tax on Sellers
A tax on sellers is like an increase in cost, so it decreases supply. To determine the position of the new supply curve, we add the tax to the lowest amount that sellers were willing to receive without the tax. The new intersection between the supply and demand curve is the new price.

Tax on Buyers
A tax on buyers lowers the amount they are willing to pay sellers, so it decreases demand causing to demand curve to shift leftward. To determine the position of the new demand curve, we subtract the tax from the maximum amount that buyers were previously willing to pay. The intersection of the new demand curve and the supply curve is the new price.

Tax Incidence and Elasticity of Demand
The division of taxes between buyers and sellers depends partly on elasticities of demand. There are two extreme cases: Perfectly inelastic Demand, Perfectly Elastic Demand

Perfectly Inelastic Demand
When demand is perfectly inelastic, buyers pay the entire tax.

Perfectly Elastic Demand
When demand is perfectly elastic, sellers pay the entire tax.

Tax Incidence and Elasticity of Supply
The division of taxes between buyer and sellers also depends partially on he elasticity of supply. There are two extreme cases: Perfectly Inelastic Supply, Perfectly Elastic Supply.

Perfectly Inelastic Supply
When supply is perfectly inelastic, sellers pay the entire tax.

Perfectly Elastic Supply
When supply is perfectly elastic, buyers pay the entire tax.

Taxes and Efficiency
A tax drives a wedge between the buying price and the selling price and it results in inefficient underproduction. A tax makes marginal social benefit exceed marginal social cost, shrinks consumer and producer surplus, and creates a deadweight loss.

Taxes and Fairness
Economists have proposed two principles of fairness with regards to taxes.

The Benefit Principle
The benefit principle is the idea that people should pay taxes equal to the benefits they receive from the services provided by the government. This is fair because it means that people who benefit

the most pay the most taxes.

The Ability to Pay Principle

The ability to pay principle is the proposition that people should pay taxes according to how easily they can bear the burden of the tax. A rich person can bear the tax better than a poor person, so the ability to pay principle reinforces the benefit principle to justify high rates of income tax on high income.

Production Quotas and Subsidies

Production Quotas

A production quota is an upper limit to the quantity of a good that can be produced in a specific period. The effects of a production quota depend on whether it is set above or below the equilibrium quantity. If it is set above the equilibrium quantity nothing will change, but if it is set below the equilibrium quantity it can have many effects which are:

Decrease in Supply

A production quota set below the equilibrium quantity causes a decrease in supply because producers are not able to produce as much as they would have without the quota.

A Rise in Price

Because production quotas decrease the supply of a good if they are set below the equilibrium quantity, it causes an increase in price because consumers are willing to pay more now that there is less of the good.

Decrease in Marginal Cost

Production quotas lower the marginal cost of production because producers produce less and stop using the resources with the highest marginal cost.

Inefficiency

The production quota set below the equilibrium quantity results in an inefficient underproduction. Marginal benefit exceeds the marginal social cost, and a deadweight loss arises.

Incentives to Cheat

Production quotas give producers an incentive to cheat and overproduce, because the price exceeds marginal cost, producers will make more profits if they overproduce.

Subsidies

A subsidy is a payment made by the government to a producer. Subsidies can have many effects, most of which are the opposite of the effects of a quota, which are:

Increase in Supply

Subsidies cause a decrease in cost, which results in an increase in supply.

Fall in Price

Subsides lower the price of goods and increase the quantity produced.

Increase in Marginal Cost

Subsidies lower the prices paid by consumers but increase the marginal cost of production. Marginal cost of production increases because producers supply more, meaning they have to begin using resources that are less ideal for production.

Inefficient Overproduction

Subsidies cause producers to overproduce.

Markets for Illegal Goods

Market for an Illegal Drug

When goods are illegal, the cost of trading the goods rises. The larger the penalties of trading the good and the better the policing, the higher the cost of trading. Penalties may be imposed on buyers, sellers, or both.

Penalties on Sellers

Penalties in sellers cause a shift in the supply curve. To determine the position of the new supply curve, we add the cost of breaking the law to the minimum price that the sellers were willing to receive for the good and draw a new curve with the same slope.

Penalties on Buyers

Penalties on buyers cause a shift in the demand curve. To determine the position of the new demand curve, we subtract the cost of breaking the law from the maximum price that buyers were willing to previously pay and draw and new demand curve with the same slope.

Penalties on Both

If penalties are imposed on both buyers and sellers, there will be a shift in both supply and demand. If the penalty is the same for both parties, then supply and demand will shift by the same amount. If the penalty is larger for sellers, then supply shifts more than demand. If the penalty is larger for buyers, then demand shifts more than supply.

Legalizing and Taxing Drugs

Illegal Trading to Avoid the Tax

If a high tax rate were imposed on drugs after they were legalized, it is likely that drug dealers and buyers would try to hide their activities to avoid paying the high taxes. The penalties for tax violations would have the same effects on the market as the penalties for selling illegal drugs.

Taxes vs Prohibition

In favour of taxes, tax revenue can be used to increase law enforcement and make it more effective. Tax revenue can also be spent on education. In favour of prohibition, it sends a signal that might change preferences regarding illegal drugs. Also, some people

don't like the idea of the government profiting off of harmful substances (tax revenue).

Chapter 7
How Global Markets Work

The goods and services that we buy from other countries are our imports. The goods and services that we supply to other countries are our exports.

What Drives International Trade

Comparative Advantage is the fundamental force that drives international trade. We can define 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. Countries import goods that the rest of the world has a comparative advantage in producing. Countries export goods that they have a comparative advantage in producing.

Gains and Losses from Imports

We measure the gains and losses from imports by examining their effect on consumer surplus, producer surplus, and total surplus. In importing countries, consumers gain because consumer surplus increases, producer lose because part of producer surplus is redistributed to consumer surplus, and the country gains as a whole because there is a net gain in total surplus.

Gains and Losses from Exports

We measure the gains and losses from exports by examining their effect on consumer surplus, producer surplus, and total surplus. In exporting countries, producers gain because producer surplus increases, consumers lose because some of consumer surplus is redistributed to producer surplus, and the country gains as a whole because there is a gain in total surplus.

Gains for All

In the case of both importing and exporting countries gain. Because one countries imports are another countries exports, international trade brings gain to all countries, it is a win-win situation.

International Trade Restrictions

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

Tariffs

A tariff is a tax on a good that is imposed by the importing country when an imported good crosses its international boundary. Tariffs raise revenue for governments and people who earn their income in impotr-competing industries. But their restriction on free trade decreases the gaiin from

trade and is not in the socail interest.

The Effects of a Tariff

There are many effects caused by import tariffs, they are:

Rise in Price

The tariff on the imported good causes a rise in the price of the good as consumers now have to pay the world price of the good plus the import tariff.

Decrease in Purchases

Because the price of the imported good rise, there is a decrease in the quantitiy demanded along the demand curve, causing consumers to purchase less.

Increase in Domestic Production

The higher price of the imported good causes producers of the good in the importing country to produce more, increase the quantity supplied on the supply curve.

Decrease in Imports

Decrease is consumer purchases of the imported good and increase of local production of the imported good causes a decrease in imports.

Tariff Revenue

The government makes a tariff revenue on each imported good.

Winners, Losers, and the Social Losses from a Tariff

A tariff on an imported good creates winners, losers, and social losses.

Consumers in the importing Country Lose

Because the price of the good rises, the quantity demanded decreases. This rise in price and fall In demand causes a decrease in consumer surplus, which is the loss to consumers caused by tariffs.

Producers in the Importing Country Gain

Because the price of the good rises, the quantity supplied by local producers increases. The rise in price and quantity supplied increases producer surplus, which is the gain to producers caused by tariffs.

Consumers Lose more than Producers Gain

Consumer surplus decreases due to some of it becoming producer surplus, higher costs of production, imports decrease, tariff revenue. The loss in consumer surplus is greater than the gain in producer surplus, resulting in a deadweight loss.

Import Quotas

An import quota is a restriction that limits the quantity of a good that may be imported over a given period of time.

Import quotas enable the government to satisfy the self interest of people

who make their incomes in the import-competing industries. However, import quotas decrease the gain from trade and are not in the social interest.

The Effects of Import Quotas

The effects of mort quotas are similar to those of tariffs. The price rises, the quantity bought decreases, and the quantity produced locally increases.

Winners, Losers, and the Social Losses from an Import Quota

Import quotas create winners and losers similar to those caused by tariffs but with one interesting difference.

Consumer surplus decreases because of some of it being transferred to producers, the domestic costs of production are higher, some of it is transferred to importers, imports decrease. Producer surplus increases. Deadweight loss occurs because consumer surplus decreases more than producer surplus increases. The effects of quotas are the same as the effects of tariffs **except** tariffs generate revenue for the government whereas quotas generate revenue for importers.

Other Import Barriers

Health, Safety, and Regulation Barriers

There are thousands of government health and safety regulations that restrict international trade, even though they were not intended to do so, they have that effect.

Voluntary Export Restraints

A voluntary export restraint is basically a country putting a quota on their exports to a certain country, they limit the amount of goods they export to a certain country.

Export Subsidies

An export subsidy is a payment from th government to a producer of an exported good. Export subsidies are illegal under NAFTA and the WTO. Because they are illegal, they make it hard for some countries to compete in global markets. Although export subsidies would bring gain to domestic producers, they would result in inefficient underproduction in the rest of the world and create a deadweight loss.

<u>The Case Against Protection</u>

There are many reasons why governments argue imposing trade restrictions is good even though they produce deadweight loss in the market and are not in the social interest, they are:

Helps Infant Industries Grow

When a new industry is born, it is not as productive as it will become with

experience. It is argued that industries such as these should be protected from international competition until they can stand alone and compete. The experience these industries gain while they are protected can change comparative advantage.

Counteracts Dumping
Dumping occurs when foreign firm sells its exports for less than its cost of production. By doing this, foreign firms can drive domestic firms out of the market and create a monopoly. Tariffs and quotas are set in place to try and prevent dumping.

Saves Domestic Jobs
Although free trade does destroy some jobs, it creates more than it destroys. And protecting the jobs that it destroys come at high costs to governments. Imports don't only destroy jobs, they create jobs for retailers that sell imputed goods and for firms that service those goods.

Allows us to Compete with Cheap Foreign Labour
The higher a worker's productivity, the higher their wage. It is comparative advantage that drives international trade not wage differences, this enables us to compete with countries that have cheap labour and enables them to compete with us.

Penalizes Lax Environmental Standards
This is a weak argument because poor countries cannot afford to be as concerned about their environment as rich countries can. As income grows, emerging countries have the means to match their desire to improve their environment. Poor countries might also have an advantage in doing "dirty" work, which helps that country to raise its income and at the same time helps the global economy reach higher environmental standards.

Prevents Rich Countries from Exploiting Developing Countries
Child labour and near-slave labour are serious problems. But by trading with poor countries, we increase the demand for the goods that these countries produce and increase the demand for their labour. When the demand for labour in developing countries increases, the wage rate rises. So trade can actually increase income in developing countries rather than exploit them.

Reduces Offshore Outsourcing
Offshore outsourcing is buying goods, components, or services from firms in other countries, and it brings gains identical from any other type of trade. However, gains from trade do not bring gains to every single person. Workers who lose jobs due to outsourcing have unemployment

benefits for short term relief. But the long term solution is retraining and the acquisition of new skills. Schools, colleges, and universities provide a more flexible and highly educated labour force.

Avoiding Trade Wars

Protection (mentioned above) can trigger a trade war. Trade wars occur when one country raises trade restrictions and another country retaliates by doing the same, which triggers yet further increasing in the first country. Free trade prevents trade wars.

Why is International Trade Restricted?

Tariff revenue one of the reasons why trade Is restricted, however the major reason is rent seeking.

Rent Seeking

Rent seeking is lobbying for special treatment by the government to create economic profit or to divert consumer surplus or producer surplus away from others. Free trade increases consumption possibilities on average but not everyone shares in the gain and some people even lose. Free trade brings benefits to some and costs to others, with total benefits outweighing total costs. The uneven distribution of costs and benefits is the principle obstacle to achieving more liberal international trade.

Compensating Losers

Because we do not, in general, compensate the losers from free international trade, protectionism is a popular and permanent feature of our national economic and political life.

Unit Five (Ch 10-11)

December 12, 2016 8:34 PM

Chapter 10
The Firm and Its Economic Problem

Each firm is an institution that hires factors of production and organizes those factors to produce and sell goods and services.

The Firm's Goal

A firm's goal is to maximize profit. A firm that does not seek to maximize profit is either eliminated or taken over by another firm that does seek that goal.

Economic Accounting

Accountants measure a firm's profit to ensure the firm pays the correct amount of tax, and to show its investors how their funds are being used. Economists measure a firm's economic profit. Economic profit is equal to total revenue minus total cost, with total cost measured as the opportunity cost of production.

Opportunity Cost of Production

A firm's opportunity cost of production is the sum of the cost of using resources.

Resources Bought in the Market

A firm incurs an opportunity cost when it buys resources in the market. This is an opportunity cost because the money spent could have been used to buy other resources.

Resources Owned by the Firm

When a firm uses its own resources or capital it incurs an opportunity cost. This cost is called the implicit rental rate of capital and has two components.

Economic Depreciation

The fall in market value over a given period. Equals market price of capital at beginning of period minus the market price of capital at the end of the period.

Forgone Interest

The funds used to buy capital could have been used for some other purpose, and in their next best use, they would have earned interest.

Resources Supplied by the Owner

Entrepreneurship

The return to entrepreneurship is profit, and the profit that an entrepreneur earns on average is called normal profit. Normal profit is the cost of entrepreneurship and is an opportunity cost of production.

Labour

The owner of a firm might supply labour but not take a wage. The opportunity cost of this is the wage income forgone by not taking the best alternative job.

Decisions

To achieve economic profit. A firm must make five decisions.

1. What to produce and in what quantities
2. How to produce
3. How to organize and compensate managers and workers
4. How to market and price products
5. What to produce and what to buy from others

Constraints

Technology Constraints

The increase in profit that a firm can achieve is limited by the technology available.

Information Constraints

A firm is constrained by limited information about the quality and efforts of its workforce, the current and future buying plans of customers, and the plans of its competitors.

Market Constraints

The quantity each firm can sell and the price it can obtain are constrained by the customers willingness to pay and by the marketing efforts of other firms.

Technological and Economic Efficiency

Technological Efficiency

Technological efficiency occurs when the firm produces a given output by using the least amount of inputs.

Economic Efficiency

Economic efficiency occurs when the firm produces a given output at the least cost. Economic efficiency depends on the relative costs of resources. The efficient method is one that uses the least amount of expensive resources. Inefficient firms do not maximize profit and go out of business.

Information and Organization

Command Systems

A command system is a method of organizational production that uses a managerial hierarchy.

Incentive System

An incentive system is a system that uses compensation schemes to convince workers to perform in a way that maximizes the firm's profit.

The Principal-Agent Problem

The principal agent problem is the problem of devising compensation rules that induce an agent to act in the best interest of the principle. Shareholders must induce the managers to act in the shareholders' best interest.

Coping with the Principle Agent Problem

Ownership

By assigning ownership of a business to managers, it is sometimes possible to induce a job performance that increases a firm's profit.

Incentive

Incentive pay is a variety of performance based rewards that encourage good performance of employees.

Long Term Contracts

Long term contracts tie the long term fortunes of workers and managers to the success of the company, giving them a reason to perform in the best interest of the company.

Types of Business Organization

Sole Proprietorship

A firm with a single owner. Unlimited liability.

Partnership

Two or more owners. Joint unlimited liability.

Corporation

Owned by limited liability shareholders.

Markets and the Competitive Environment

Perfect Competition

Perfect competition arises when there are many firms selling an identical product, many buyers, and no restrictions to entry.

Monopolistic Competition

A large number of firms compete by making similar but slightly different products (product differentiation).

Oligopoly

A small number of firms compete, could produce identical or differentiated products.

Monopoly

One firm producing a good or service that has no close substitutes,

barriers venting the entry of new firms.

Measures of Concentration

Four Firm Concentration Ratio

The percentage of the value of sales accounted for by the four largest firms in the industry. A low concentration ratio indicates a high degree of competition. 100% is a monopoly, above 60% is an oligopoly, below 60% is a competitive market.

The HHI

The square of the percentage market share of each firm summed over the largest 50 firms. In perfect competition the HHI is small, if the HHI is less than 1500 the market is competitive. Between 1500 and 2500 is moderately competitive, above 2500 is not competitive. 10,000 is a monopoly.

Limitations of a Concentration Measure

Geographical Scope of Market

Concentration measures use a national market. Although many goods are sold in a national market, some are sold in a regional market, and some in a global one.

Barriers to Entry

Some markets are highly concentrated but entry is easy and firm turnover is large. Other markets may not be very concentrated but the threat of entry may be high resulting in a competitive market.

Market and Industry Correspondence

To calculate the ratios, firms are put into specific industries. The problem is, markets are often narrower than industries. And firms often produce more than one product. Thirdly, firms switch from one market to another depending on profit opportunities.

Produce or Outsource? Firms and Markets

Firm Coordination

Firm coordination occurs when firms hire labour, capital, and land, and organize and coordinate their activities to produce goods and services.

Market Coordination

Markets coordinate production by adjusting prices and make the decisions of buyers and sellers of factors of production consistent. Outsourcing, buying parts or products from other firms, is also an example of market coordination.

Why Firms?

Firms are chosen when a task or activity can be performed more efficiently in a firm than in a market and vice-versa.

Transaction Costs
Firms can lower transaction costs by reducing the number of individual transactions undertaken.

Economies of Scale
When the cost of producing a good falls as its output increases, economies of scale exist. Economies of scale can be reaped more effectively by firms than markets.

Economies of Scope
A firm uses economies of scope when it uses specialized resources to produce a range of goods and services.

Economies of Team Production
Individuals working together in production.

Because firms can economize on transaction costs, reap economies of scale and scope, and organize efficient team production, it is firms rather than markets that coordinate most of our economic activity.

Decision Time Frames

The biggest decision that an entrepreneur makes is in what industry to establish a firm. For most entrepreneurs, their background knowledge and interests drive this decision. All types of firms in all types of markets make similar decisions about how to produce.

Short Run
The short run is the time frame in which one factor of production is fixed. For most firms, capital, lands, and entrepreneurs are fixed factors of production. We call these 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, usually labour. Short run decisions are easily reversed.

Long Run
The long run is a time frame in which the quantities of all factors of production can be varied. A firm can change its plant in the long run. To increase output in the long run, a firm can change its plant as well as the quantity of labour it hires. Long run decisions are not easily reverse. Once a plant decision is made, the firm generally has to live with it for a long time. A sunk cost is the cost of a past expenditure on a plant that has no resale value. Sunk costs are irrelevant to current decisions. The only costs that influence current decisions are the short run costs of changing labour

and the long run costs of changing plant.

Short Run Technology Constraints

To increase output in the short run, a firm must increase the quantity of labour employed. We describe the relationship between output and the quantity of labour by using three related concepts. Total product, marginal product, and average product. Illustrated by product schedules or curves.

Total Product

Total product is the maximum output that a given quantity of labour can supply.

Marginal Product

Marginal product is the increase in total product that results from a one unit increase in labour.

Average Product

Average product is equal to total product divided by the quantity of labour employed.

Product Schedules

Tables of values displaying labour, total product, marginal product, and average product.

Product Curves

Product curves are graphs of the relationships between employment and the three product concepts. They study how total product, marginal product, and average product change as labour changes.

Total Product Curve

The total product curve is similar to the PPF in that it separates the attainable from the unattainable. All points above the curve are unattainable, all points below the curve are attainable but inefficient, only the points on the curve are attainable and efficient.

Marginal Product Curve

The marginal product curve shows increased marginal returns initially and diminishing marginal returns eventually. This is because the marginal gain from hiring 1 more worker is much high than the marginal return of hiring a 5th new worker, law of diminishing returns.

Average Product Curve

Average product is largest when average product and marginal product are equal, marginal product curve cuts the average product curve at the point of maximum average product. When the marginal product curve is above the average product curve, average product is increasing. When marginal product curve is below, average product is decreasing.

Short Run Cost

To produce more output in the short run, a firm must increase its labour, thus increasing its cost.

Total Cost

A firms total cost is the cost of all the factors of production it uses.

Total Fixed Cost

Total fixed cost is the cost of all fixed factors of production, these quantities don't change with output, so total fixed cost is the same at all outputs.

Total Variable Cost

Total variable cost is the cost of all variable factors of production. Total variable cost changes at output changes.

Marginal Cost

A firm's marginal cost is the increase In total cost that results from a one unit increase in output. At small outputs, marginal cost is decreasing, at larger outputs, marginal cost is increasing because of the law of diminishing returns.

Average Cost

Average cost is split into three categories. Average total cost, average fixed cost, and average variable cost.

Marginal Cost and Average Cost

The marginal cost curve intersects the average total cost curve and average variable cost curve at their minimum points. When marginal cost is less than average cost, average cost is decreasing. When marginal cost is greater than average cost, average cost is increasing, this is true for average total cost and average variable cost.

Why is the Average Total Cost Curve U Shaped?

Average total cost is the sum of average variable cost and average fixed cost. The U shape is caused by 2 things.

Spreading Fixed Costs Over Large Outputs

When output increases, the firm spreads its total fixed costs over a larger output, so its average fixed cost decreases, causing a downward slope.

Eventual Diminishing Returns

As output increases, average variable cost decreases initially, causing a downward slope, but increases eventually, causing an upward slope, these 2 effects together cause the U shape of the ATC curve.

Cost Curves and Product Curves

The technology that a firm uses determines its costs. A firm's cost curves

come directly from its product curves.

Total Product and Total Variable Cost Curves

The same curved can be used to graph total product curve or total variable cost curve. Graphing output against labour results in a total product curve, graphing output against the cost of labour results in a total variable cost curve.

Average and Marginal Product and Cost Curves

At the point of maximum marginal product, marginal cost is at a minimum. At the point of maximum average product, average variable cost is at a minimum. As labour increases further, output increases. Average product diminishes and average variable cost increases.

Shifts in the Cost Curves

Technology

A technology change that increases productivity increases the average product and marginal product of labour. Technological advance lowers the costs of production and shifts cost curves downward. Often, technological advances lead to firm using more capital, fixed factor, and less labour, variable factor, resulting in an increase in fixed cost and a decrease in variable cost, overall decreasing total cost. At small outputs, total cost might increase, at large outputs, total cost decreases.

Prices of Factors of Production

An increase in a fixed factor of production shifts the AFC and TFC curves upward, while the AVC, TVC, and MC curves remain the same. An increase in a variable factor of production shifts the AVC, TVC, and MC curves upward, while the AFC and TFC curves remain the same.

Long Run Cost

The behaviour of long run cost depends on the firm's production function, which is the relationship between the maximum output attainable and the quantities of both labour and capital.

The Production Function

The production function is a table that shows which outputs can be produced given a certain amount of labour and capital. Diminishing returns occur as output increases.

Diminishing Marginal Product of Capital

The change in total product divided by the change in capital when labour remains constant. Marginal product of capital increases initially but decreases eventually.

Short Run Cost and Long Run Cost

The minimum average total cost for a firm with a larger amount of capital will occur at a larger output than a firm with a smaller amount of capital because the firm with more capital has a higher total fixed cost, and therefore, a higher average fixed cost at any given output. In the long run, the firm can choose its amount of capital, and the amount of capital it chooses is the amount that enables it to produce its planned output at the lowest average total cost. When a firm is producing a given output at the least possible cost, it is operating on its long run average cost curve.

Long Run Average Cost Curve

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 amount of capital and quantity of labour it employs. The LRAC curve is a planning curve, it tells firms which amount of capital and labour to use at each output to minimize average total cost. Once a firm chooses an amount of capital (a plant) the firm operates on the short run cost curves that apply to that plant. The long run average cost curve is derived from pieces of multiple short run average cost curves. Pieces of each short run average cost curve with the lowest average total cost.

Economies and Diseconomies of Scale

Economies of Scale

Economies of scale cause average total cost to fall as output increases. When economies of scale are present, the LRAC curve slopes downward.

Diseconomies of Scale

Diseconomies of scale cause average total cost to rise as output increases. When diseconomies of scale are present, the LRAC curve slopes downward.

Constant Returns to Scale

Constant returns to scale keep average total cost constant as output increases. When constant returns to scale are present, the LRAC curve is horizontal.

Minimum Efficient Scale

Minimum efficient scale is the smallest output at which long run average cost reaches its lowest level. This scale plays a key role in determining market structure. If minimum efficient scale is small relative to demand, there is room for many firms in the industry and the market is competitive. If the minimum efficient scale is large relative to demand, only a small number of firms, or one firm can make a profit, resulting in an oligopoly or a monopoly.

Unit Four (Ch 8-9)

December 12, 2016 6:04 PM

Chapter 8
Consumption Choices

Consumption Possibilities

Consumption ossiblities are all the things that you can afford to buy. You can afford many different combinations of goods and services, but they are all limited by your income and by thr prices that you must pay.

A Consumer's Budget Line

Consumption possibilities are limited by income and price. When a consumer spends all of their income, they reach the limits of their consumption possibilities, we describe this limit with a budget line, which marks the boundary between the combinations of goods and ervices that a household can afford to buy, and the combinations that it cannot afford. The budget line constraints choices, consumers can afford all choices on or below their budget line, the choices above their budget line are unaffordable.

Changes in Consumption Possibilities

Consumption possibilities change when income or prices change. A change in income shifts the budget line but maintains the same slope. A change in price changes the slope of the budget line.

Preferences

Income and prices limit consumption choices, but consumers still have a lot of choice based on their preferences. We use consumer preferences to determine hoe consumers make their buying plans, we want to explain what determines demand and marginal benefit. We use utility to do this. Utility is defined as the benefit or satisfaction that a person gets from the consumption of goods and services.

Total Utility

The total benefit that a consumer gets from the consumption of all the different goods and services is called total utility. More consumption generally means more total utility.

Marginal Utility

Marginal utility is the change in total utility that results from a one-unit increase in the quantity of a good consumed.

Positive Marginal Utility

The things that people enjoy and want more of have a positive marginal utility, total utility increases as quantity consumed increases.

Diminishing Marginal Utility

The tendency for marginal utility to decrease as consumption increases is called the principle of diminishing marginal utility.

Utility Maximizing Choices

Consumers want to get the most utility possible for their limited resources, so the make choices that maximize utility. To maximize utility, we create a spreadsheet solution listing all of the consumers choice possibilities if they exhaust all of their income, the utility maximizing choice is the combination that results in the most total utility. This situation is known as consumer equilibrium.

Consumer Equilibrium

Consumer equilibrium is a situation in which a consumer has allocated all of their available income in the way that maximizes their total utility. We measure total utility from all the affordable combinations of goods, by inspection of the numbers, we select the combination that gives the highest total utility.

Choosing at the Margin

Marginal Utility per Dollar

Economists interpret your best choices by using the idea of marginal utility per dollar. Marginal utility per dollar is the marginal utility from a good that you gain from spending one more dollar on it. To calculate marginal utility per dollar, we divide marginal utility by price.

Utility Maximizing Rules

A consumer's total utility is maximized by the following rules:

Spend All Available Income

Because more consumption brings more utility, only those options that exhaust income can maximize utility.

Equalize Marginal Utility Per Dollar

Total utility is maximized when the marginal utility per dollar of each good is equal, if not, total utility can be increased further.

The Paradox of Value

How can valuable water be so cheap while a relatively useless diamond is so expensive?

The Paradox Resolved

The paradox is resolved by distinguishing between total utility and marginal utility. The total utility we get from water is enormous, but the marginal utility we get is not very high because we consume so much of it. Diamonds however, have low total utility compared to water, by high marginal utility because we consume so few of them.

When the high marginal utility of diamonds is divided by their high price, the result is a number that is equal to the low marginal utility of water divided by water's low price, thus the marginal utility per dollar for water and diamonds is equal. Another way to look at it is using consumer surplus. Water is cheap, but consumer surplus high. Diamonds are expensive, but consumer surplus is though. They balance out.

New Ways of Explaining Consumer Choices

Behavioural Economics

Behavioural economics studies the ways in which limits on the human brains ability to compute and implement rational decisions influences economic behaviour. There are three impediments that prevent rational choice.

Bounded Rationality

Rationality that is limited by the computing power of the human brain.

Bounded Willpower

The willpower that prevents us from making a decision that we know we will later regret.

Bounded Self Interest

The limited self-interest that results in us sometimes suppressing our own interests to help others.

The Endowment Effect

The tendency for people to place more value on something simply because they own it.

Neuroeconomics

Neuroeconomics is the study of the activity of the human brain when a person makes an economic decision. Used to obtain a better understanding of economic decisions. Behavioural economics and neuroeconomics generate controversy.

Chapter 9

Consumption Possibilities

A household's budget line describes the limits to its consumption choices.

Divisible and Indivisible Goods

Some goods, called divisible goods, can be bought in any quantity desired. We can best understand household choices if we assume that all goods are divisible goods.

Affordable and Unaffordable Quantities

Budget lines separate the affordable from the unaffordable. Any

point on or inside the budget line is affordable, any point outside it is unaffordable.

Budget Equation

We can describe the budget line by using a budget equation. The budget equation starts with the fact that: expenditures = income (expenditure is equal to the sum of the price of each good multiplied by the quantity bought)

Expenditure = (price of good a x quantity of Good a) + (price of good b x quantity of good b)

Let Y equal Income.

(Pa x Qa) + (Pb x Qb) = Y

Real Income

A households real income is its income expressed as a quantity of goods that the household can afford to by. (Income/Price of good).

Relative Price

A relative price is the price of one good divided by the price of another good. Relative price is an opportunity cost, and is the slope of the budget line.

Change in Price

A change in price results in a change in slope of the budget line.

Change in income

A change in income shifts the budget line but does not change the slope.

Preferences and Indifference Curves

A preference map is based on the intuitively appealing idea that people can sort all possible combinations of goods into three groups: preferred, not preferred, and indifferent.

An indifference curve is a line that shows combinations of goods among which a consumer is indifferent. A preference map is a series of indifference curves.

Marginal Rate of Substitution (MRS)

The marginal rate of substitution is that rate at which a consumer will give up good Y to get an additional unit of good X while remaining on the same indifference curve. The magnitude of the slope of an indifference curve measures the marginal rate of substitution. If the curve is steep MRS is high. If the curve is flat MRS is low.

Diminishing MRS

A diminishing MRS is a general tendency for a person willing to give up less of a good for one more unit of another good as they move

along the indifference curve. The tightness of an indifference curve to the origin tells us how willingly someone will give good Y for good X while remaining indifferent.

Degree of Substitutability

Close substitutes

Some goods substitutes so well for each that most of us don't even notice which we are consuming. These are known as perfect substitutes and there indifference curves are straight lines that slope downward.

Compliments

Some goods do not substitute for each other at all. These goods are known as compliments. There indifference curves are L shaped.

The closer goods are to being substitutes, the closer their indifference curves are to being straight lines rather than curved ones. Indifference curves for poor substitutes are tightly curved.

Predicting Consumer Choices

Best Affordable Choice

A consumers best affordable choice is made when they spend all of there income and are on their highest attainable indifference curve. The best affordable point is the point at which the budget line intersects the highest attainable indifference curve.

Marginal Rate of Substitution Equals Relative Price

At the best affordable point, the marginal rate of substitution (slope of the indifference curve) is equal to the relative price or opportunity cost of a good, or the slope of the budget line.

Price Effect

Change in slope of budget line.

Substitution Effect

Movement along the indifference curve after a price change.

Income Effect

Shift of budget line with slope remaining the same.

Inferior Goods

An inferior good is one for which demand decreases when income increases. The income effect for an inferior good is negative, which means that a lower price does not mean an increase in quantity demanded. The substitution effect of a fall in price increases quantity demanded, but the negative income effect works in the opposite direction and offsets the substitution effect to some degree. If the negative income effect equals the positive substitution effect, quantity doesn't change, demand is perfectly inelastic. If the negative

income effect is less than the positive substitution effect, an fall in price increases quantity demanded, demand is elastic. Demand for an inferior good might be less elastic than the demand for a normal good.

Unit Six (Ch 12-15)

December 13, 2016 12:30 AM

Chapter 12

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 in the market, established firms have no advantage over new firms, sellers and buyers are well informed about prices.

How Perfect Competition Arises

Perfect competition arises if the minimum efficient scale of a single product is small relative to the market demand for a good or service. Minimum efficient scale is the smallest output at which the LRAC curve reaches its lowest output. In perfect competition, each firm produces a good with the same characteristics, so consumers don't care which firm they buy from.

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. Firms in perfect competition are price takers.

Economic Profit and Revenue

Economic profit is equal to total revenue minus the total opportunity cost of production. Total revenue equals the price of a good or service multiplied by the quantity of the good or service sold. Marginal revenue is the change in total revenue that results from one more unit sold. In perfect competition, marginal revenue is equal to the market price.

Demand

Firms can sell any quantity they choose at the market price, so the demand curve for the firms product is a horizontal line at the market price, the same as the firms marginal revenue curve. This shows that the demand for the firms product is perfectly elastic. However, the market demand for this product is not a perfectly elastic horizontal line as it depends on the substitutability between the product and other goods and services.

The Firm's Decisions

The goal of the firm is to maximize economic profit, to achieve a firm in perfect competition has to decide: how to produce at minimum cost, what quantity to produce, whether to enter or exit a market. In order to produce at minimum cost, a firm must operate on its LRAC curve.

The Firm's Output Decision

A firm's cost curves (total, average, and marginal cost) describe the relationship between cost and output. A firm's revenue curves (total revenue and marginal revenue) describe the relationship between output and revenue. From these curves, we can find the output that maximizes economic profit. By graphing the total cost and total revenue curves, we can see that they intersect. Any point between the two points of intersection in the curve makes an economic profit, any point outside the two intersection points makes an economic loss. To determine maximum economic profit, we subtract total cost from total revenue and graph these values at different outputs to obtain an economic profit curve, the output at which the economic profit curve is the highest is the output that generates the highest economic profit.

Marginal Analysis and the Supply Decision

Another way to find the profit maximizing point is to compare the marginal cost and marginal revenue curves. If the marginal revenue curve is above the marginal cost curve, then increasing output increases economic profit. If the marginal revenue curve is below the marginal cost curve, then increasing output decreases economic profit. If the marginal cost curve and marginal revenue curves are equal (intersection) economic profit is maximized.

Temporary Shutdown Decision

Maximum profit is generated when marginal cost equals marginal revenue. But what if at this quantity, price is less than average total cost. Then the firm's maximum profit is a loss. If this loss is deemed to be permanent, then the firm goes out of business. If the loss is deemed temporary, then the firm must decide to shut down temporarily and incur the total fixed costs as a loss. Or continue to produce. A firm chooses between these through loss comparison. If the loss from producing is greater than the loss from temporarily shutting down then the firm shuts down temporarily. If the cost of shutting down is greater than the cost of producing, the firm continues to produce at a loss**. Economic Loss = TFC + (AVC-P) x Q**. if the firm shuts down, there is no variable costs, so the loss is equal to average total costs. If average variable cost exceeds price, the firm shuts down. If price exceeds average variable cost but is still lower than average total costs, the firm continues to produce at a loss.

The Shutdown Point

A firm's shutdown point is the price and quantity at which they are indifferent between shutting down and producing, they incur the same loss from shutting down temporarily as they would from continuing to produce at a loss. The shutdown point is at minimum average variable cost.

The Firm's Supply Curve

A perfectly competitive firm's supply curve shows how its profit maximizing output varies as market price varies. The supply curve is derived from the AVC and MC curves. The supply curve starts at a price of 0 and traces the y-axis until it reaches a price equal to minimum average variable cost (lowest point on AVC curve) then it jumps to the shutdown point and follows the marginal cost curve.

Output, Price, and Profit in the Short Run

To determine the price and quantity in a perfectly competitive market we need to know how supply and demand interact.

Market Supply in the Short Run

The short run market supply curve shows the quantity supplied by all firms at each price when each firm's plant and the number of firms remain the same. The market supply curve is derived from individual supply curves. The quantity supplied by the market at a given price is the sum of the quantities supplied by all the firms in the market at that price. To construct the market supply curve, we sum the quantities supplied by all firms at each price.

Short Run Equilibrium

A Change in Demand

Changes in demand bring changes to short run market equilibrium. If demand increases, the demand curve shifts rightward and the price rises, each firm maximizes profit by increasing output. If demand decreases, the demand curve shifts leftward and price falls, each firm maximizes profit by reducing output. If the demand curve intersects the supply curve when the supply curve is horizontal, some curves in the industry will choose to shut down, and some will continue to produce at a loss. This is because when this happens, the firms in the industry incur an economic loss because the price is so low.

Profit and Losses in the Short Run

In short run equilibrium, although firms produce profit maximizing output, they do not necessarily make an economic profit. They could make a profit, break even, or lose. **Economic Profit (or Loss) = (P-ATC)xQ.** If price is greater than average total cost, the firm makes a profit. If price is less than average total cost, the firm incurs a loss, if price equals average total cost, the firm breaks even.

Output, Price, and Profit in the Long Run

In the long run, firms can inter or exit the market. Firms respond to economic profit and economic loss by either entering or exiting a market. Temporary economic profit or loss don’t trigger entry or exit, it is only the prospect of persistent economic profit or loss that triggers entry and exit. Entry and exit

change the market supply, which influences the market price and the quantity produced by each firm, thus influencing economic profit or loss.

Entry

Firms enter a market in which current firms are making an economic profit. When firms enter markets, supply increases and the supply curve shifts rightward. The increase in supply lowers market price, and the lowered market price decreases economic profit. When economic profit reaches 0, entry into the market stops. Entry results in an increase in market output but each firms individual output decreases.

Exit

Firms exit a market in which they are incurring an economic loss. If firms exit a market, supply decreases, price rises, and economic loss decreases. Economic loss is eventually eliminated and exit stops. When firms exit a market, market output decreases, but individual output increases.

Long Run Equilibrium

Profit induces entry which eliminates profit, and loss induces exit which eliminates loss. When profit and loss have been eliminated and entry and exit have stopped, the competitive market is in long run equilibrium. However, a competitive market is rarely in long run equilibrium because the market is constantly bombarded with events that change the constraints that firms face. Markets are constantly adjusting to keep up with changes is demand, technology, and costs.

Changes in Demand and Supply as Technology Advances

Increase in Demand

When demand increases, the equilibrium price rises and producers make economic profit. New firms start to enter the market and supply increases and the price stops rising and begins to fall. Eventually, enough firms have entered for the supply and the increased demand to be in balance and the market returns to long run equilibrium. The difference between initial long run equilibrium and new long run equilibrium is the number of firms. An increase in demand increases the number of firms. In the process of moving from the old long run equilibrium to the new one, each firm makes an economic profit.

Decrease in Demand

A decrease in demand brings a lower price, economic loss, and exit. Exit decreases supply, which raises the price to its original level and economic profit returns to zero in a new long run equilibrium.

Technological Advances Change Supply

New technologies lower costs of production. When a new technology becomes available that lowers the costs of production, the first firms to

use it make an economic profit. As more firms begin to use it, market supply increases and the price falls. At first, new technology firms continue to make an economic profit so more firms enter. But the firms that continue to use the old technology incur a loss because the price has fallen but their costs haven't, they exit the market. Eventually enough firms exit the market and enough new firms enter the market to increase the supply so that the price is lowered to the minimum average total cost, all firms make zero economic profit and return to long run equilibrium. Technology changes bring temporary gains to producers and permanent gains to consumers.

Competition and Efficiency

Competition achieves an efficient allocation of resources.

Efficient Use of Resources

Resource use is efficient when we produce goods and services that people value most highly. If it is possible to make someone better off without making someone else worse off, resource use is not efficient. We can test whether resources are being allocated efficiently by comparing the marginal cost and marginal benefit curves.

Choices, Equilibrium, and Efficiency

Choices

Consumers allocate their budgets to get the most possible value out of them. Consumers get the most value out of all points on their demand curves. The market demand curve measure the benefit to the entire society and is the marginal social benefit curve. Firms produce the quantity that maximizes profit. Firms get the most value from their resources at all points on their supply curves. The market supply curve measures the marginal cost to the entire society, it is the marginal social cost curve.

Equilibrium and Efficiency

Resources are used efficiently when marginal social benefit equals marginal social cost. Competitive equilibrium achieves this because with no externalities, price is equal to marginal social benefit for consumers, and price is equal to marginal social cost for producers. When the market for a good or service is in equilibrium, the gains from trade (consumer and producer surplus) are maximized.

When firms in perfect competition are away from long run equilibrium, either entry or exit moves the market towards it. During this process, the market is efficient because the marginal social benefit equals the marginal social cost. But it is only in long run equilibrium that economic profit is driven to zero and consumers pay the lowest possible price.

Chapter 13

Monopoly and How it Arises

A monopoly is a market with a single firm that produces a good or service that has no close substitutes and is protected from competition by a barrier to entry.

How Monopolies Arise

No Close Substitutes

Monopolies sell goods or services that have no close substitutes, so there is no competition from other firms.

Barriers to Entry

A barrier to entry is a constraint that protects a firm from potential competitors. There are 3 types of barriers.

Natural Barrier

A natural barrier to entry creates a natural monopoly. A market in which economies of scale enable one firm to supply the entire market at the lowest possible cost.

Ownership Barrier

An ownership barrier to entry occurs if one firm owns a significant portion of a key resource.

Legal Barriers

A legal barrier to entry creates a legal monopoly. A market in which competition and entry are restricted by the granting of a public franchise, government license, patent, or copyright.

Monopoly Price Setting Strategies

A major difference between a monopoly and competition is that a monopoly sets its own price. In doing so, the monopoly faces a constraint, they must lower the price to sell a higher quantity. There are two price setting strategies.

Single Price

A single price monopoly is a firm that must sell each unit for the same price to all of its customers.

Price discrimination

When a firm practices price discrimination, it sells different units of a good or service for different prices. In doing so, they charge the highest possible price and achieve maximum profit.

Single Price Monopoly Output and Price Decision

Price and Marginal Revenue

Because there is only one firm in a monopoly, the demand curve facing the monopoly is the market demand curve. In a monopoly, marginal revenue is less than price and lies below the demand curve at any given output.

Marginal Revenue and Elasticity

A single price monopoly's revenue is related to the elasticity of demand for its good. If demand is elastic, a fall in the price brings an increase in revenue and marginal revenue is positive. If demand is inelastic, a fall in the price brings a decrease in revenue and marginal revenue is negative. If demand is unit elastic, revenue is constant and marginal revenue is zero. A profit maximizing monopoly never produces an output in the inelastic range of the market demand curve.

Marginal Revenue Equals Marginal Cost

When MR exceeds MC, profit increases by that amount. When MC exceeds MR profit decreases by that amount. When MC equals MR profit is maximized.

Maximum Price the Market Will Bear

Monopolies do not charge the highest possible price. They producing the profit maximizing quantity and sell that quantity for the highest price they can get. All firms maximize profit by producing an output where marginal revenue equals marginal cost. For a monopoly, price exceeds marginal revenue so price also exceeds marginal cost. Although a monopoly charges a price that exceeds marginal cost, it does not always make an economic profit.

Single Price Monopoly and Competition Compared

Comparing Price and Output

The demand curve is the same regardless of how the industry is organized, but the supply ide and equilibrium are different in monopoly and competition. When a competitive market is taken over by a monopoly, the competitive market's supply curve becomes the monopoly's marginal cost curve. Compared to perfect competition, a single price monopoly produces a smaller output and charges a higher price.

Efficiency Comparison

Perfect competition with no externalities is efficient. But in a monopoly, the smaller output and higher price drive a wedge between marginal social benefit and marginal social cost resulting in inefficiency and deadweight loss. Consumer surplus shrinks because consumers have to pay more, this increases producer surplus, and they receive less of the good, contributes to deadweight loss. And although the monopoly gains from charging higher prices, it loses some producer surplus due to producing a smaller output, contributing to deadweight loss. A monopoly does not face any competition and as a result does not produce at the lowest possible long run average cost. This damages consumer interest in

three ways: producing less, increasing costs of production, raising prices.

Redistribution of Surplus

Monopolies bring a redistribution of surplus. Some of the consumer surplus goes to the producer surplus because the monopoly takes the difference between the old competitive price and the new monopoly price. So that portion of surplus is redistributed and isn't a social loss.

Rent Seeking

The social cost of monopoly can exceed the deadweight loss because of rent seeking. Any surplus, is called economic rent, and rent seeking is the pursuit to capture economic rent. A monopoly makes an economic profit by capturing some of consumer surplus, so the pursuit of economic profit by a monopoly is rent seeking. Rent seekers pursue their goals in 2 ways.

Buy a Monopoly

To rent seek by buying a monopoly a person searches for a monopoly that is for sale for a price lower than the monopoly's economic profit. People devote time and effort t seeking out profitable monopolies to purchase, using up scarce resources that could have otherwise been used to produce goods and services. The value of this lost production is the social cost of monopoly. The amount paid for a monopoly is not a social cost.

Create a Monopoly

Rent seeking by creating a monopoly is mainly a political activity. It takes the form of lobbying and trying to influence the political process. Influences might be sought by making campaign contributions in exchange for legislative support or by directly seeking to influence political outcomes through publicity or through direct contact with politicians and bureaucrats. This type of rent seeking is a costly activity, firms spend billions of dollars lobbying in the pursuit of licenses and laws that create barriers to entry and establish a monopoly.

Rent Seeking Equilibrium

Barriers to entry create a monopoly but there is no barrier to entry for rent seeking. Rent seeking is like perfect competition. If economic profit is available, a rent seeker will try to get some of it. Competition among rent seekers pushes up the price of a monopoly to the point at which the rent seeker makes zero economic profit by operating the monopoly. The cost of rent seeking is a fixed cost that must be added to a monopoly's other costs. Rent seeking and rent seeking costs increase to the point at which no economic profit can be made. The average total cost curve shifts upward until it just touches the demand curve. Economic profit is zero, it has been lost in rent seeking. Consumer surplus is unaffected, but the

deadweight loss is larger. The deadweight loss is now the original deadweight loss plus the producer surplus that was lost in rent seeking.

Price Discrimination

Price discrimination is selling a good or service at a number of different prices. Not all price differences are price discriminations. Price discrimination increases economic profit. To be able to price discriminate, a firm has to sell a product that cannot be resold, and it must be possible to identify different types of buyers.

Two Ways of Price Discriminating

Discriminating Among a Group of Buyers

People differ in the value that they place on a good. Some of these differences are correlated with easily observable characteristics such as age, gender, employment status. When such a correlation is present, firms can profit by price discriminating among the different groups of buyers.

Discriminating Among Units of Goods

A firm that price discriminates by charging a customer one price for a single item and a lower price for a second or third item can capture some of the consumer surplus.

Increasing Profits and Producer Surplus

By getting buyers to pay a price as close as possible to their maximum willingness to pay, a monopoly captures the consumer surplus and converts it to producer surplus. More producer surplus means more economic profit. **Producer Surplus = TR-TVC.** For a given level of total fixed cost, anything that increases producer surplus increases economic profit.

Perfect Price Discrimination

Firms try t capture an ever larger part of consumer surplus by devising special conditions, each condition appeals to a specific portion of the market. The more consumer surplus a producer is able to capture, the closer it gets to perfect price discrimination. Perfect price discrimination occurs if a firm can sell each unit of output for the highest price someone is willing to pay for it. In this case, consumer surplus is eliminated and captured as producer surplus. With perfect price discrimination, the market demand curve becomes the marginal revenue curve.

Efficiency and Rent Seeking

With perfect price discrimination, output increases to the point where price equals marginal cost. This is identical to perfect competition. Perfect price discrimination pushes consumer surplus to zero but raises the producer surplus to a level that equals the amount of total surplus in

perfect competition. With perfect price discrimination, no deadweight loss is created, so efficiency is achieved. The outcome of perfect competition and perfect price discrimination are different. First, the distribution of surplus is different. Second, because the monopoly takes all the total surplus, rent seeking is profitable. People use resources in pursuit of this economic rent, and the bigger the rent, the more resources used. The long run equilibrium outcome is that rent seekers use up the entire producer surplus.

Monopoly Regulation

Natural monopolies present a dilemma. With economies of scale they produce with lowest possible costs. But with market power, they raise prices above the competitive price and produce too little. Regulation is a possible solution to the dilemma but not a guaranteed one. There are two theories on how regulation actually works.

The Social Interest Theory

The political and regulatory process that relentlessly seeks out inefficiency and introduces regulation that eliminates deadweight loss and allocate resource efficiently.

The Capture Theory

Regulation that serves the self interest of the producer, who captures the regulator and maximizes economic profit. Regulation that benefits the producer but generates a deadweight loss gets adopted because the producers gain is large and visible and each individual consumers gain is small and invisible, so no one consumer has motive to fight it but producers have an incentive to lobby for it.

Efficiency Regulation of a Natural Monopoly

A natural monopoly cannot always be regulated to achieve an efficient outcome. There are two possible ways of regulating to avoid economic loss.

Average Cost Pricing

The average cost pricing rules sets price equal to average total cost. With this rule the firm produces at th quantity at which the total cost curve cuts the demand curve. However the quantity that is produced is less than the efficient quantity and a deadweight loss arises.

Government Subsidy

A government subsidy is a direct payment made by the government to the producer that is equal to the firm's economic loss. To pay subsidies the government must implement taxes, and taxers generate deadweight loss. Average cost pricing is generally preferred to government subsidy. There are two ways of implementing average cost pricing.

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.

Price Cap Regulation

Rate of regulation is being replaced by price cap regulation. Price cap regulation sets a price ceiling on how much a firm can raise the price, giving firms an incentive to operate efficiently and keep costs under control.

Monopolistic Competition

Monopolistic competition is a market structure in which: a large number of firms compete, each firm produces a differentiated product, firms compete on product quality, price, and marketing, and firms are free to enter and exit the industry.

Large Number of Firms

Small Market Share

Each firm supplies a small amount of the total industry output, so each firm has a limited ability to influence the price of its product. Each firm's price can deviate from the average price of other firms by a relatively small amount.

Ignore Other Firms

Firms must be sensitive to the average market price of the products, but firms do not pay attention to any one individual competitor. Because the firms are all small, no firm can dictate market conditions, and the actions of one firm do not affect the actions of another.

Collusion Impossible

Firms would like to be able to conspire to fix a higher price, collude, but because the amount of firms in the industry is large, coordination is difficult and collusion is not possible.

Product Differentiation

Product differentiation is the development of a product that is slightly different than the products of competing firms. A differentiated product has close substitutes but no perfect substitutes.

Competing on Quality, Price, and Marketing

Quality

The quality of a product is the physical attributes that make it different from the products of other firms. Quality includes design, reliability, service, and ease of access. The spectrum of quality varies from high to low for varying goods.

Price

A firm can set its price and output in monopolistic competition. But

there is a tradeoff between price and quantity, a firm with a higher quality product is able to charger a higher price.

Marketing

Marketing takes two main forms: advertising and packaging.

Entry and Exit

Monopolistic competition has no barriers to prevent new firms from entering the industry. Because if this, a firm in monopolistic competition cannot make an economic profit in the long run. When firms begin to make and economic profit, new firms enter driving economic profit back to zero. When firms incur economic loss, firms exit until economic loss equals zero. In long run equilibrium firms neither enter or exit the industry and the firms in the industry make zero economic profit.

Price and Output

Firm's Short Run Output and Price Decision

In the short run, a firm in monopolistic competition makes its output and price decision just like a monopoly firm does. The goal is to maximize economic profit, to do so, firms produce the output at which marginal revenue equals marginal cost.

Profit Maximizing

A firms goal is to maximize profit, but a firm might face a level of demand at which it is not possible to obtain an economic profit, in this case, profit maximizing is loss minimizing. They key difference between monopoly and monopolistic competition is what happens after a firm makes an economic profit or incurs an economic loss.

Long Run

A firm in monopolistic competition will not incur an economic cost for too long, eventually, it will go out of business. Also, if firms in the industry are making an economic profit, new firms have an incentive to enter the industry, increasing supply, lowering price, and eliminating economic profit, thus in the long run, firms in monopolistic competition do not make an economic profit.

Monopolistic Competition and Perfect Competition

The two key differences between these two is that monopolistic competition has excess capacity and markup.

Excess Capacity

A firm has excess capacity if it produces less than its efficient scale.

Markup

A firms markup is the amount by which price exceeds marginal cost.

Is Monopolistic Competition Efficient

The Bottom Line

Product variety is both valued and costly. The efficient degree of product variety is the one for which marginal social benefit equals marginal social cost. Compared to the alternative - product uniformity - monopolistic competition might be efficient.

Product Development and Marketing

Product Development

The prospect of new firms entering the industry means that firms in monopolistic competition must be constantly seeking ways to stay one step ahead of their competition. To maintain economic profit, a firm must either develop a new product, or greatly improve an existing product to give them a competitive edge. A firm that introduces a new or improved product faces a less elastic demand and Is able to raise prices to make an economic profit.

Profit Maximizing Product Development

Product development is a costly activity but is also brings in revenue. The firm must balance the costs and the revenues at the margin. When the marginal cost and marginal revenue of product development are equal, the firm is undertaking the profit maximizing level of product development.

Efficiency and Product Development

In monopolistic competition, marginal revenue s less than price, so product development may not be pushed to its efficient level.

Advertising

Advertising Expenditures

Advertising expenditures are known as selling costs, they are the main selling costs, but not the only ones. Advertising expenditures affect the profits of firms in two ways: they increase costs, and they change demand.

Selling Costs and Total Costs

Selling costs are fixed costs and they increase the firm's total costs. Advertising costs per unit decreases as the quantity produced increases. The total cost of advertising is fixed. But the average cost of advertising decreases with increases in output. If advertising increases the quantity sold by a large amount, it can decrease average total cost.

Selling Costs and Demand

Advertising and other selling efforts change demand. Advertising decreases the demand faced by any one firm in the industry. It also

makes the demand for any one firm more elastic. So advertising can not only end up lowering average total cost but also lower markup and price.

Using Advertising to Signal Quality

Advertising is a signal to consumers that high quality products are being sold. Because advertising is a signal, it doesn't need any specific product information, it just needs to be expensive and hard to miss.

Brand Names

A brand name provides information to consumers about the quality of a product and is an incentive to the producer to achieve a high and consistent quality standard.

Efficiency of Advertising and Brand Names

The opportunity cost of the additional information provided by advertising and brand names must be weighed against the gain to the consumer. The final verdict on the efficiency of monopolistic competition is ambiguous, it might be efficient, it might be inefficient.

Chapter 15

Oligopoly

All game theories regarding oligopoly, see textbook.

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Unit Seven (Ch 16-17)

December 14, 2016 1:12 AM

Chapter 16

Externalities

An externality is a cost or benefit from an action that falls on someone other than the person or firm choosing the action. Externalities that impose a cost are negative externalities, externalities that generate a benefit are positive externalities.

Negative Production Externalities

Burning coal, logging, clear cutting, these are all examples of negative production externalities, the cost are borne by everyone, even future generations.

Positive Consumption Externalities

An example of positive production externalities is when honeybees collect pollen and nectar from orange blossoms to make honey. During this process they also transfer pollen between blossoms, which helps to fertilize them. There are two positive production externalities in this process. The orange farmer gets a positive externality from the honeybees and the honeybee farmer gets a positive externality from the oranges.

Negative Consumption Externalities

Negative consumption externalities are a source of irritation for most of us. For example, smoking in confined spaces, or loud outdoor concerts.

Positive Consumption Externalities

Flu vaccines generate positive consumption externality. If you get a flu shot and avoid the flu, your neighbour, who didn't get a flu shot, gets a positive externality from you because your neighbour has a better chance of avoiding it.

Negative Externality: Pollution

Private, External, and Social Cost

A private cost is a cost that is borne by the producer of a good or service. Marginal private cost is the cost of producing one more unit of a good or service. An external cost is a cost of production that is borne by someone other than the producer. A marginal external cost is the cost of producing one more unit of a good or service that is borne by someone other than the producer. Marginal social cost is the sum of marginal private cost and marginal external cost.

Valuing an External Cost

Economists use market prices to put dollar values on the external prices of pollution. For example, if there are homes on two sides of a river, one side of the river is polluted and the other is not, and there are 10 houses on each side. The houses on the clean side pay 2,000

dollars a month in rent but the houses on the polluted side pay only $1,500. the external cost of pollution is $5,000 a month, 10 times the $500 dollars rent lost from each house because of pollution.

External Cost and Output

Marginal private cost borne by producers increases as quantity increases. If a firm pollutes a river, it imposes an external cost borne by other users of the river. Pollution and its marginal external cost increase as production increases. The marginal social cost curve is found by adding marginal external cost to marginal private cost.

Equilibrium and Amount of Pollution

Equilibrium In the market determines the amount of pollution. This equilibrium is one with inefficient overproduction. Because producers do not take into account the external cost, too much paint is produced, too much pollution Is generated, and a deadweight loss arises. What can be done to fix the inefficiency?

Establish Property Rights

Property rights are legally established titles to the ownership, use, and disposal of actors of protection and goods and services that are enforceable in courts. Property rights are the foundation stone of a market economy. Property rights help producers allocate resources more efficiently, there are two ways of doing so.

Use an Abatement Technology

An abatement technology is a production technology that reduces or prevents pollution.

Produce Less and Pollute Less

An alternative to incurring the cost of an abatement technology is to use pollution technology but cut production and reduce pollution. Firms will choose the least costly alternative.

Efficient Market Equilibrium

With property rights, producers face the pollution costs or the abatement costs, whichever is lower. The MSC curve includes the cost of producing plus either the pollution cost or the abatement cost. This curve is now the market supply curve. Market equilibrium occurs, this outcome is efficient.

The Coase Theorem

The Coase theorem is the proposition that if property rights exist and the transaction costs of enforcing them are low, then private transactions are efficient and it doesn’t matter who has the property rights. The Coase theorem only works when the transaction costs are low.

Mandate Clean Technology

When property rights are too difficult to define and enforce, the response is most likely regulation. Countries regulate what may be dumped or emitted. The environment resources in Canada are heavily regulated.

Canadian Environmental Regulation

Canada monitors air pollution, thousands of regulations have been issued to chemical plants and power utilities to adopt abatement technologies and reduce emissions. Although direct regulation works, it Is not always the least costly solution.

Tax or Cap and Price Pollution

Taxes

Governments use taxes as an incentive for producers to cut back the pollution they create. Taxes used in this way are called Pigovian Taxes. By setting tax equal to marginal external cost, firms can be made to behave as if they bore the cost of the externality directly. Add the tax to the marginal private cost to find the market supply curve. The curve is also the marginal social cost curve because the pollution tax has been set equal to the marginal external cost. Demand and supply determine the market equilibrium, the market outcome is efficient.

Cap and Trade

A cap is an upper limit. A cap is a quota, a pollution quota. A government that used this method must first estimate the efficient quantity of pollution and set the overall cap at that level. A pollution quota must somehow be allocated to individual firms. In an efficient allocation of quotas, each firm has the same marginal social cost. To make an efficient allocation of quota, the government needs to know each firm's marginal production cost and marginal abatement cost. The government solves this allocation problem by making an initial distribution of the caps among the firms and allowing them to trade in a market for pollution permits. Firms that have a low marginal abatement cost sell permits and make big cuts in pollution. Firms that have high marginal abatement costs buy permits and make little to no cuts in pollution. The market in permits determines the equilibrium price of pollution and each firm maximizes profit by setting its marginal pollution or abatement cost equal to the market price of a permit. This can achieve the same efficient outcome as a Pigovian tax.

Positive Externality: Knowledge

A private benefit is the benefit that the consumers of a good or service receive. A marginal private benefit is the benefit that consumers receive from a one unit increase in consumption. An external benefit is the benefit received from someone other than the consumer. Marginal external benefit is the benefit received from someone other than the consumer from a one unit increase in consumption. Marginal social benefit Is the sum of marginal private benefit and marginal external benefit. When people make schooling decisions, they ignore external benefit and only regard private benefit. So if education were provided by private schools that charge full tuition, the market would produce too few graduates and a deadweight loss would arise. External benefit is also created from the discovery of new knowledge. When people make decisions about the amount of education and resource to undertake, they balance the marginal private cost against the marginal private benefit. They ignore the external benefit. As a result, we get too few of these activities. So the government takes action to modify the market outcome.

Government Actions

The government uses four devices to achieve a more efficient allocation of resources in the presence of external benefits.

Public Production

With public production, a good or service is produced by a public authority that receives its revenue from the government. Public education is an example of public production. The efficient quantity occurs when marginal social benefit equals marginal social cost. Tuition is set to ensure the efficient number of students enroll, tuition is set to equal the marginal private benefit at the efficient quantity.

Private Subsidies

A subsidy is a payment by the government to private producers. By making the subsidy depend on the level of output, governments can induce private decision makers to consider external benefits. The supply curve becomes the marginal social cost curve minus the subsidy, subsidies achieve an efficient outcome.

Vouchers

A voucher is a token by the government provided to households, it can be used to buy specific goods and services. Vouchers are used as a means of providing parents with a greater choice and control over the education of their child. A school voucher pays part of the cost. The school cashes the voucher with the government to pay its bills. The government provides a voucher per student equal to the marginal external benefit. Parents or students use these vouchers for education. The marginal social benefit curve becomes the demand for university education. The outcome of a voucher scheme is efficient. Vouchers are similar to subsidies but are said to be more efficient because the consumer can monitor school performance

more effectively than the government can.

Patents and Copyrights

Knowledge is an exception to the principle of diminishing marginal benefit, additional knowledge makes people more productive. One reason why the stock of knowledge increases without diminishing returns is the sheer number of different techniques that can in principle be tried. Think about all the processes, all the products, and all the different bits and pieces that go into each, and you can see that we have only begun to scratch the surface of what is possible. Because knowledge is productive and generates external benefits, it is necessary to us public policies to ensure that those who develop new ideas have incentives to encourage an efficient level of effort. Intellectual property rights do this. Intellectual property rights take the form of patents and copyrights. They are government sanctioned exclusive rights granted to the inventor of a good or service to produce, use, and sell the invention for a given number of years. Patents come at an economic cost. While a patent is in place, its holder has a monopoly. Monopolies are inefficient. But without a patent, the effort for new ideas and inventions is not there. So the efficient outcome is a compromise that balances the benefits of more inventions against the cost of a temporary monopoly.

Chapter 17

Classifying Goods and Resources

Goods, services, and resources differ in the extent to which people can be excluded from consuming them and the extent to which one person's consumption rivals the consumption of others.

Excludable

A good is excludable if it is possible to exclude someone from enjoying its benefits. Excludable goods are paid for.

A good is non-excludable if it is impossible to prevent anyone from benefitting from it.

Rival

A good is rival if consumption from one person decreases consumption for another person. A good is nonrival if one person's use of it does not decrease the quantity available for someone else.

Fourfold Classification

Private Goods

A private good is both rival and excludable.

Public Goods

A public good is both nonrival and non-excludable. A public good can be consumed simultaneously by everyone, and no one can be excluded from its benefits.

Common Resource

A common resource is rival and non-excludable. A unit of common resource can be used only once, but no one can be prevented from using what is available.

Natural Monopoly Goods

A natural monopoly good is a nonrival but excludable good. Consumers can be excluded if they don't pay, but adding one more user doesn't rival other users. Fixed cost of producing is high, so economies of scale exist over the entire range of output.

Public Goods

The Free Rider Problem

A free rider enjoys the benefits of a good or service without paying for it. Because a public good provides use for everyone and no one can be excluded from using it, no one has an incentive to pay their share of the cost, everyone has an incentive. The free rider problem is that the market would provide an inefficient quantity of a public good. Marginal social benefit from the good would exceed marginal social cost, and a deadweight loss would arise.

Marginal Social Benefit From a Public Good

Because everyone gets the same quantity of the good, its marginal social benefit curve is the sum of all the individual marginal benefit curves at each quantity, it Is the vertical sum of the marginal benefit curves. To obtain the economy's MSB curve for a private good, we sum the quantities demanded by all individuals at each price, we sum the individual marginal benefit curves horizontally.

Marginal Social Cost of a Public Good

The marginal social cost of a public good is determined in exactly the same way as that of a private good. The principle of increasing marginal cost applies to the marginal cost of a public good and the marginal social cost curve of a public good slopes upward.

Efficient Quantity of a Public Good

To determine the efficient quantity of a public good, find the quantity at which marginal social benefit equals marginal social cost. If this happens, resources cannot be used more efficiently.

Inefficient Private Provision

Private firms are most likely not able to deliver the efficient quantity because no one has an incentive to buy his or her share. The mindset is, if I don't pay, I reap the same benefits as if I did pay, but at a lesser cost. So no one pays. This is the free rider problem. Because of the free rider problem, private provision is inefficient.

Efficient Public Provision

Political process might be efficient or inefficient. Competition in the political marketplace results in the efficient provision of a public good.

The Principle of Minimum Differentiation

The tendency for competitors to make themselves seem similar to appeal to the maximum number of clients or voters is called the principle of minimum depreciation. This describes the behaviour of political parties. For the political process to deliver the efficient outcome, voters must be well informed, evaluate alternatives, and vote in the election.

Inefficient Public Provision

If competition between two political parties is to deliver the efficient quantity of a public good, bureaucrats must cooperate and help to achieve this outcome.

Objective of Bureaucrats

The main objective of bureaucrats is to maximize their department's budget because a bigger budget brings a bigger status and more power.

Rational Ignorance

It is rational for a voter to be ignorant about an issue unless it has a perceptible effect on the voter's economic welfare. Rational ignorance is the decision not to acquire information because the cost of doing so exceeds the benefit of the information. In collaboration with the bureaucrats who are responsible for the provision of a public good, informed voters who produce that public good exert a larger influence than do the relatively uniformed voters who only use the public good. When the rationality of the uninformed voter and special interest groups are taken into account, the political equilibrium provides public goods in excess of the efficient quantity.

Two Types of Political Equilibrium

Social Interest Theory

Social interest theory predicts that governments make choices that achieve an efficient provision of public goods. Occurs in a perfect political system where voters are fully informed and refuse to vote for outcomes that can be improved upon.

Public Choice Theory

Public choice theory predicts that governments make choices that result in inefficient overprovision of public goods. This outcome occurs in markets where voters are rationally ignorant and base their votes on issues they know affect their own net benefit. The result of this is government failure that parallels market failure.

Why Government is Large and Growing

Voter Preference

As voter's income increases, their demand for public goods increases faster than income, these goods include public health, weather forecasting, education, highways, airports, and air traffic control systems. If politicians did not support increases in expenditures on these items, they would not get elected.

Inefficient Overprovision

Inefficient overprovision might explain the size of the government but it does not explain the growth rate, why governments use an increasing proportion of total resources.

Voters Strike Back

If government grows to large, voters backlash. But promising to trim the bureaucracy and eliminate waste is much easier than delivering more efficient government, so overspending persists. Another way in which voters backlash is the privatization of the production of public goods.

Common Resources

The tragedy of commons is the overuse of a common resource that arises when its users have no incentive to conserve it and use it sustainably.

Sustainable Use of a Renewable Resource

A renewable natural resource is one that replenishes itself by birth and growth of new members of the population. If the stock of fish is small, the quantity born is small, and the sustainable catch is small. If the stock of fish is large, the quantity born is large, however not all survive because they have to compete, only a small number become large enough to catch. Between a small and large fish stock is a quantity of fish stock that maximizes sustainable catch. If the quantity of fish caught is less than the sustainable catch, the fish stock grows. If the quantity of fish caught exceeds the sustainable catch, the fish stock shrinks, the if quantity caught equals the sustainable catch, fish stock remains constant. If the fish stock is less than the level that maximizes sustainable catch, overfishing depletes the stock.

Overuse of a Common Resource

Fishers face only their own private cost and don’t face external cost. The social cost of fishing combines the private cost and external cost.

Marginal Private Cost

The marginal private cost of fishing is the cost incurred by keeping a boat and crew at sea long enough to catch another tonne of fish. This eventually reaches diminishing marginal returns. Catch per hour decreases, the marginal cost of catching fish increases as quantity caught increases.

Marginal External Cost

The marginal external cost of fishing is the cost per additional tonne that one fisher's production imposes on all other fishers. Marginal external cost also increases as quantity caught increases.

Marginal Social Cost

Marginal social cost is the sum of marginal private cost and marginal external cost. Marginal social cost increases as quantity caught increases.

Marginal Social Benefit and Demand

The marginal social benefit from fish is the price that consumers are willing to pay per kilogram of fish. Marginal social benefit decreases as the quantity of fish consumed increases, so the demand curve, which is also the marginal social benefit curve, slopes downward.

Overfishing Equilibrium

The market demand curve for fish is the marginal social benefit curve. The market supply curve is the marginal private cost curve. Market equilibrium occurs when these two curves intersect.

Efficient Equilibrium

Efficient use of a common resource occurs when marginal social benefit is equal to marginal social cost.

Deadweight Loss from Overfishing

Deadweight loss measures the cost of overfishing. Deadweight loss equals marginal social cost minus marginal social benefit.

Achieving an Efficient Outcome

To use a common resource efficiently, it is necessary to design an incentive mechanism that confronts the users of the resource with the marginal social consequences of their actions.

Property Rights

One way of overcoming the tragedy of the commons is to convert a common resource to private property. The users of the good will be confronted with the full cost of using it because they either own it or are paying the owner for permission to use it. When private property rights are established and enforced, the marginal social cost curve becomes the marginal private cost curve, and the use of resources is efficient. The private property solution is available in some cases, but assigning property rights Is not always a feasible option.

Production Quota

A production quota is an upper limit to the quantity of a good that may be produced in a specific period. This quota is allocated to individual producers, so each individual producer has its own quota. Where producers are difficult, or very costly, to monitor or where marginal cost caries across producers, a production quota cannot achieve an efficient outcome.

Individual Transferable Quotas

A production limit that is assigned to an individual who is then free to

transfer the quota to someone else. A market in ITQs emerges and they are traded at their market price. The market price of an ITQ is the highest price someone is willing to pay for it. That price is marginal social benefit minus marginal cost. A fisher with an ITQ could sell it for the market price, so by not selling the ITQ the fisher incurs an opportunity cost. The marginal cost of fishing, which now includes the opportunity cost of an ITQ, equals the marginal social benefit from the efficient quantity. The marginal private cost curve shifts upward from MC to MC+ITQ and each fisher is confronted with the marginal social cost of fishing. No one has an incentive to exceed the quota because to do so would send marginal cost above price and result in a loss on the marginal catch. The outcome is efficient.