Unit I: Basic Economic Concepts

What is Economics in General?

- Economics is the science of scarcity.
- Scarcity is the condition in which our wants are greater than our limited resources.
- Since we are unable to have everything we desire, we must make choices on how we will use our resources.
- In economics we will study the choices of individuals, firms, and governments.

Economics is the study of <u>choices</u>.

Examples:

You must choose between buying jeans or buying shoes. Businesses must choose how many people to hire Governments must choose how much to spend on welfare.

Economics Defined

Economics-Social science concerned with the efficient use of limited resources to achieve maximum satisfaction of economic wants.

(Study of how individuals and societies deal with <u>scarcity</u>)

Micro vs. Macro

MICROeconomics-

Study of small economic units such as individuals, firms, and industries (competitive markets, labor markets, personal decision making, etc.)

MACROeconomics-

Study of the large economy as a whole or in its basic subdivisions (National Economic Growth, Government Spending, Inflation, Unemployment, etc.)

How is Economics used?

- Economists use the scientific method to make generalizations and abstractions to develop theories. This is called theoretical economics.
- These theories are then applied to fix problems or meet economic goals. This is called policy economics.

Positive vs. Normative

Positive Statements- Based on facts. Avoids value judgements (what is).

Normative Statements- Includes value judgements (what ought to be).

Thinking at the Margin

# Times Watching Movie	Benefit	Cost
1st	\$30	\$10
2nd	\$15	\$10
3rd	\$5	\$10
Total	\$50	\$30

Would you see the movie three times?

Notice that the total benefit is more than the total cost but you would NOT watch the movie the 3rd time.

Marginal Analysis

In economics the term marginal = additional

"Thinking on the margin", or MARGINAL ANALYSIS involves making decisions based on the additional benefit vs. the additional cost.

For Example:

You have been shopping at the mall for a half hour, the additional benefit of shopping for an additional half-hour might outweigh the additional cost (the opportunity cost).

After three hours, the additional benefit from staying an additional half-hour would likely be less than the additional cost.

5 Key Economic Assumptions

- 1. Society's wants are unlimited, but ALL resources are limited (scarcity).
- 2. Due to scarcity, choices must be made. Every choice has a cost (a trade-off).
- 3. Everyone's goal is to make choices that maximize their satisfaction. Everyone acts in their own "self-interest."
- 4. Everyone acts rationally by comparing the marginal costs and marginal benefits of every choice
- 5. Real-life situations can be explained and analyzed through simplified models and graphs.

Given the following assumptions, make a rational choice in your own self-interest (hold everything else constant)...

- 1. You want to visit your friend for the weekend
- 2. You work every weekday earning \$100 per day
- 3. You have three flights to choose from:

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Thursday Night Flight = $300
Friday Early Morning Flight = $345
Friday Night Flight = $380
```

Which flight should you choose? Why?

Trade-offs

ALL decisions involve trade-offs.

Trade-offs are all the alternatives that we give up whenever we choose one course of action over others.

(Examples: going to the movies)

The most desirable alternative given up as a result of a decision is known as opportunity cost.

What are trade-offs of deciding to go to college? What is the opportunity cost of going to college?

The Factors of Production

The Factors of Production

Land



Land includes the "gifts of nature," or natural resources not created by human effort.

Capital



Capital includes the tools, equipment, and factories used in production.





Labor includes people with all their efforts and abilities.

Entrepreneurs



Entrepreneurs are individuals who start a new business or bring a product to market.

The Production Possibilities Curve (PPC)

Using Economic Models...

Step 1: Explain concept in words

Step 2: Use numbers as examples

Step 3: Generate graphs from numbers

Step 4: Make generalizations using graph

What is the Production Possibilities Curve?

- A production possibilities graph (PPG) is a model that shows alternative ways that an economy can use its scarce resources
- This model graphically demonstrates scarcity, trade-offs, opportunity costs, and efficiency.

4 Key Assumptions

- Only two goods can be produced
- Full employment of resources
- Fixed Resources (Ceteris Paribus)
- Fixed Technology

Production "Possibilities" Table

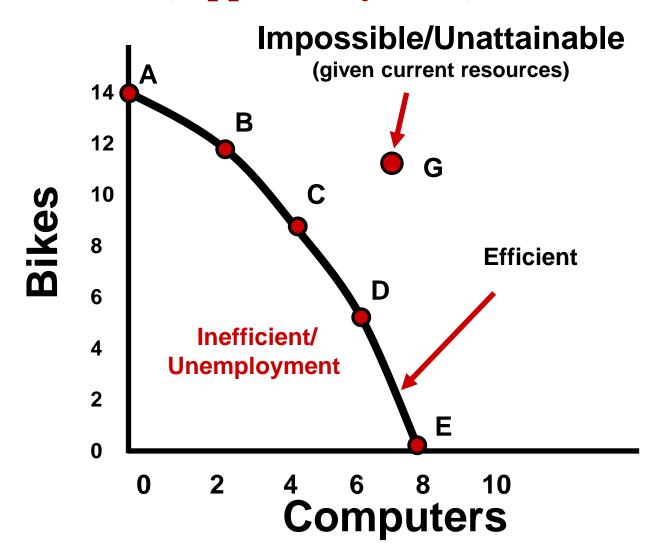
Bikes Computers

a	b	c	d	e
14	12	9	5	0
0	2	4	6	8

Each point represents a specific combination of goods that can be produced given full employment of resources.

NOW GRAPH IT: Put bikes on y-axis and computers on x-axis

How does the PPG graphically demonstrates scarcity, trade-offs, opportunity costs, and efficiency?

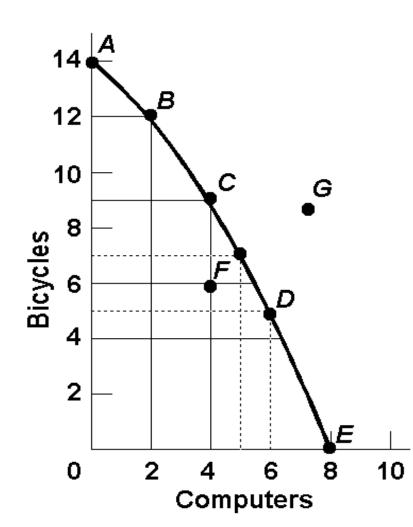


Opportunity Cost

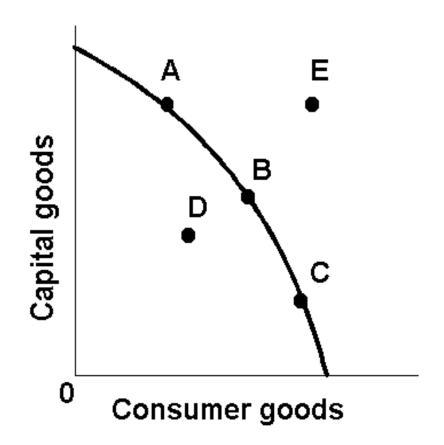


Example:

- 1. The opportunity cost of moving from a to b is... 2 Bikes
- 2.The opportunity cost of moving from b to d is... 7 Bikes
- 3. The opportunity cost of moving from d to b is... 4 Computers
- 4. The opportunity cost of moving from f to c is... 0 Computers
- 5.What can you say about point G?
 Unattainable



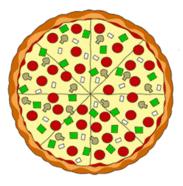
The Production Possibilities Curve (or Frontier)



	A	В	C	D	Ε
CALZONES	4	3	2	1	0
PIZZA	0	1	2	3	4

- List the Opportunity Cost of moving from a-b, b-c, c-d, and d-e.
- Constant Opportunity Cost- Resources are easily adaptable for producing either good.
- Result is a straight line PPC (not common)







PIZZA	
ROBOTS	

A	В	C	D	Ε
18	17	15	10	0
0	1	2	3	4

- List the Opportunity Cost of moving from a-b, b-c, c-d, and d-e.
- Law of Increasing Opportunity Cost-
 - As you produce more of any good, the opportunity cost (forgone production of another good) will increase.
 - Why? Resources are NOT easily adaptable to producing both goods.
- Result is a <u>bowed out</u> (Concave) PPC

PER UNIT Opportunity Cost

How much each marginal = Opportunity Cost unit costs **Units Gained**

Example:

1. The PER UNIT opportunity cost of moving from a to b is... 1 Bike

2.The PER UNIT opportunity cost of moving from b to c is...

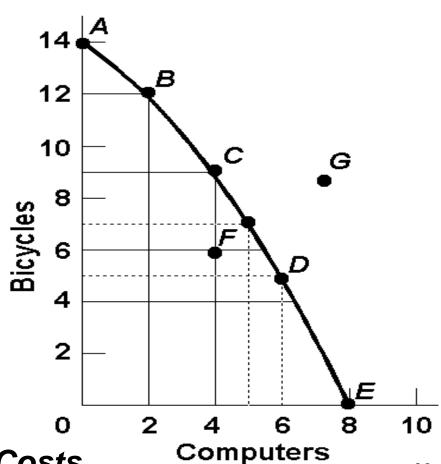
1.5 (3/2) Bikes expression is a second is ... 3. The PER UNIT opportunity

cost of moving from c to d is...

2 Bikes

4.The PER UNIT opportunity cost of moving from d to e is...

2.5 (5/2) Bikes



NOTICE: Increasing Opportunity Costs

Shifting the Production Possibilities Curve

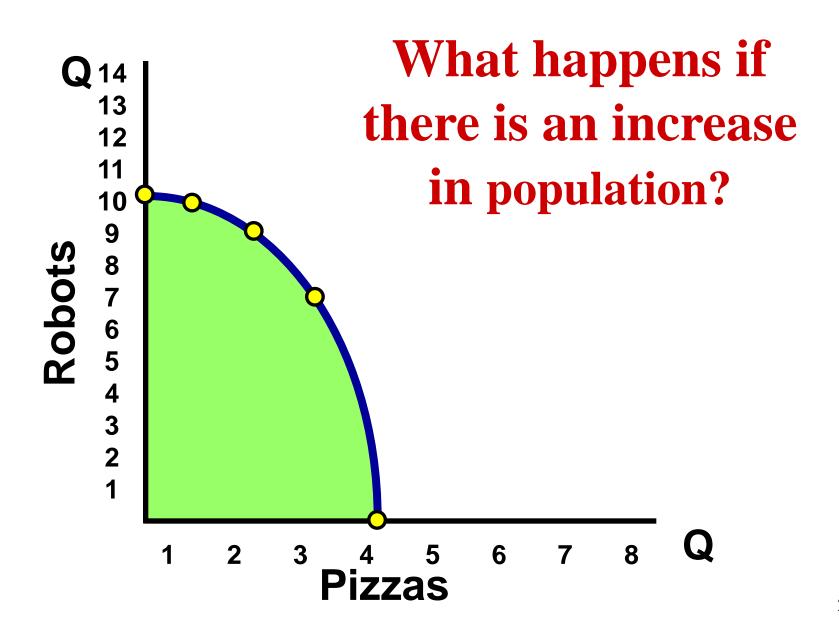
4 Key Assumptions Revisited

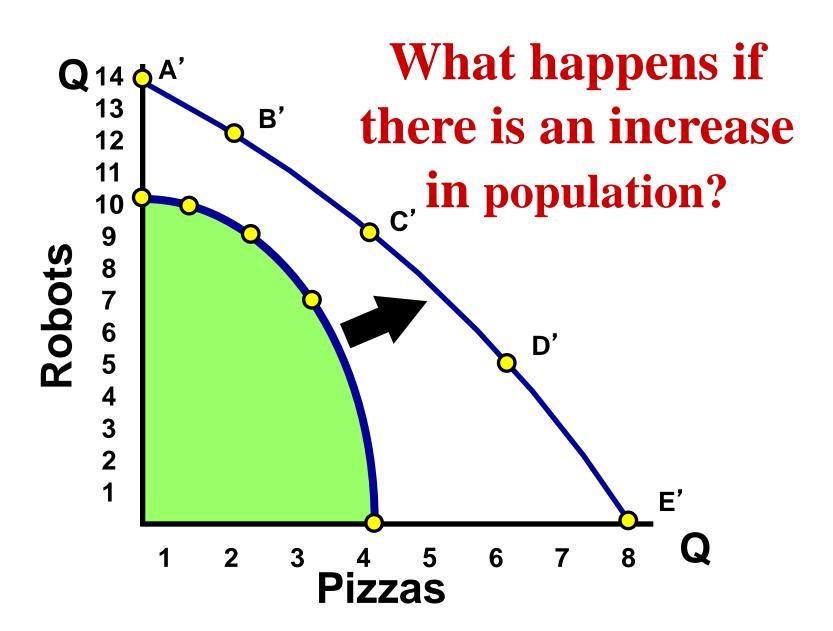
- Only two goods can be produced
- Full employment of resources
- Fixed Resources (4 Factors)
- Fixed Technology

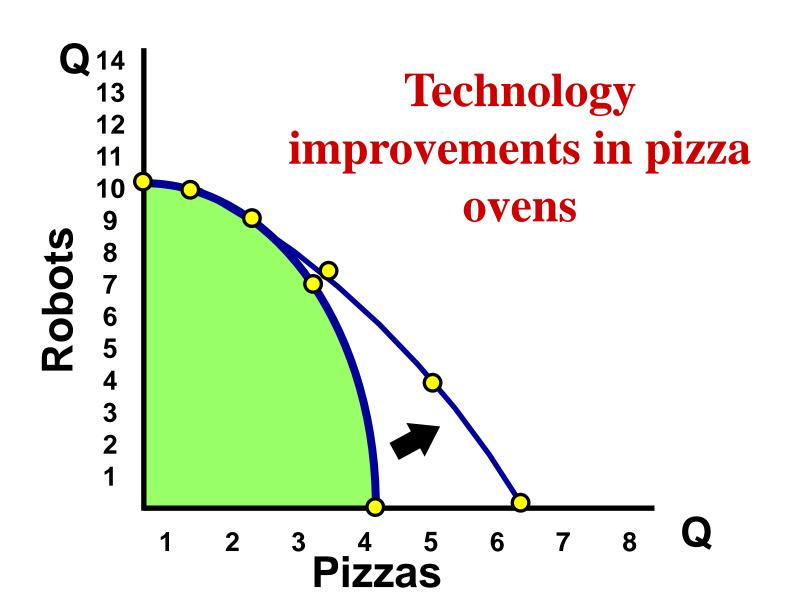
What if there is a change?

3 Shifters of the PPC

- 1. Change in resource quantity or quality
- 2. Change in Technology
- 3. Change in Trade







The Production Possibilities Curve and Efficiency

Two Types of Efficiency

Productive Efficiency-

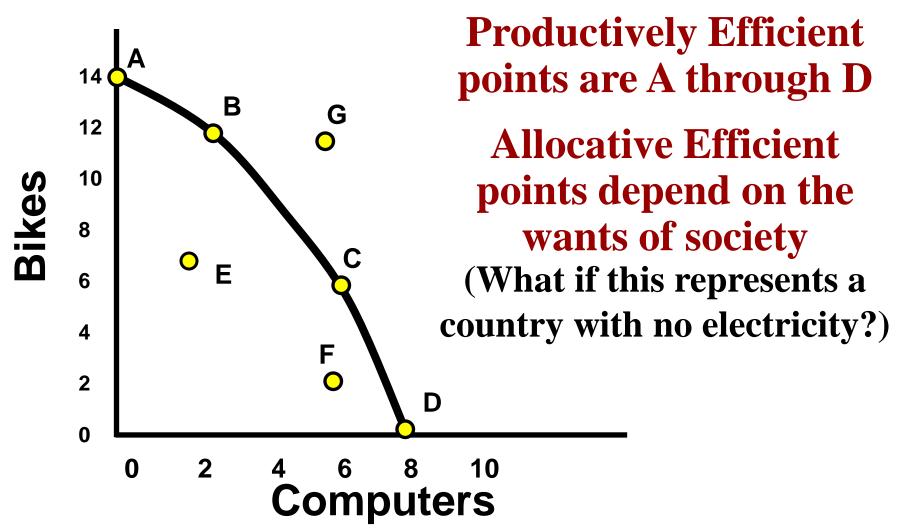
- Products are being produced in the least costly way.
- This is any point ON the Production Possibilities Curve

Allocative Efficiency-

- The products being produced are the ones most desired by society.
- This *optimal* point on the PPC depends on the desires of society.

Productive and Allocative Efficiency

Which points are productively efficient? Which are allocatively efficient?

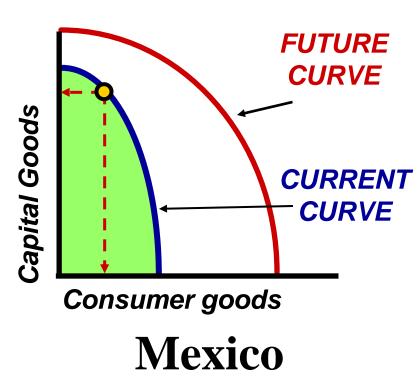


Capital Goods and Future Growth

Panama - FAVORS CONSUMER GOODS

CURVE FUTURE CURVE Consumer goods Panama

Mexico - FAVORS CAPITAL GOODS



PPC Practice Draw a PPC showing changes for each of the following:

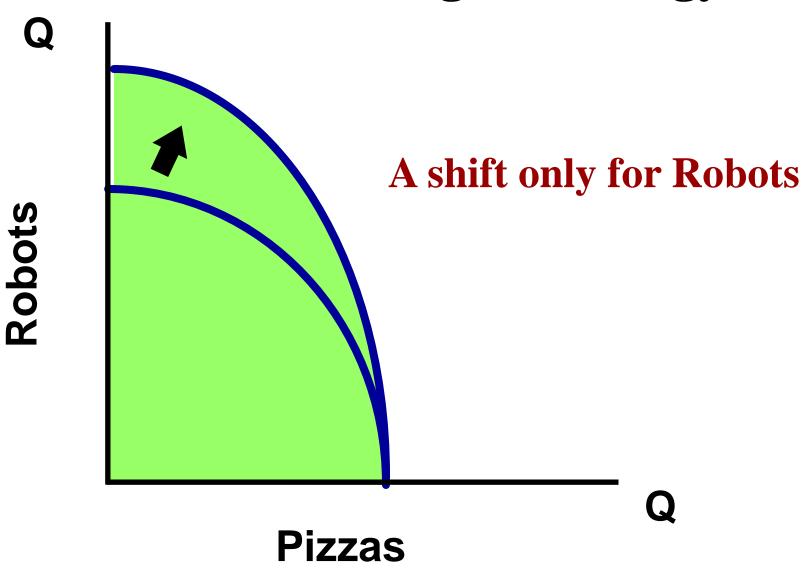
Pizza and Robots (3)

- 1. New robot making technology
- 2. Decrease in the demand for pizza
- 3. Mad cow disease kills 85% of cows

Consumer goods and Capital Goods (4)

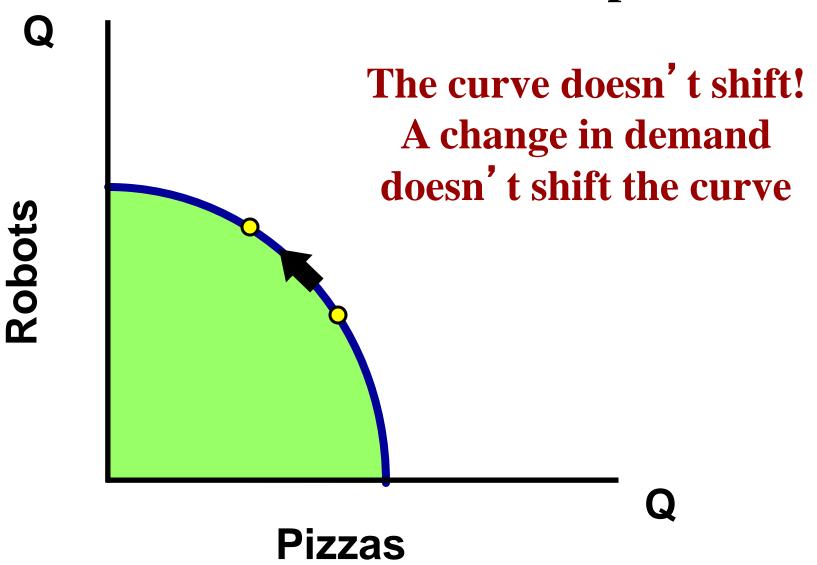
- 4. BP Oil Spill in the Gulf
- 5. Faster computer hardware
- 6. Many workers unemployed
- 7. Significant increases in education

Question #1 New robot making technology



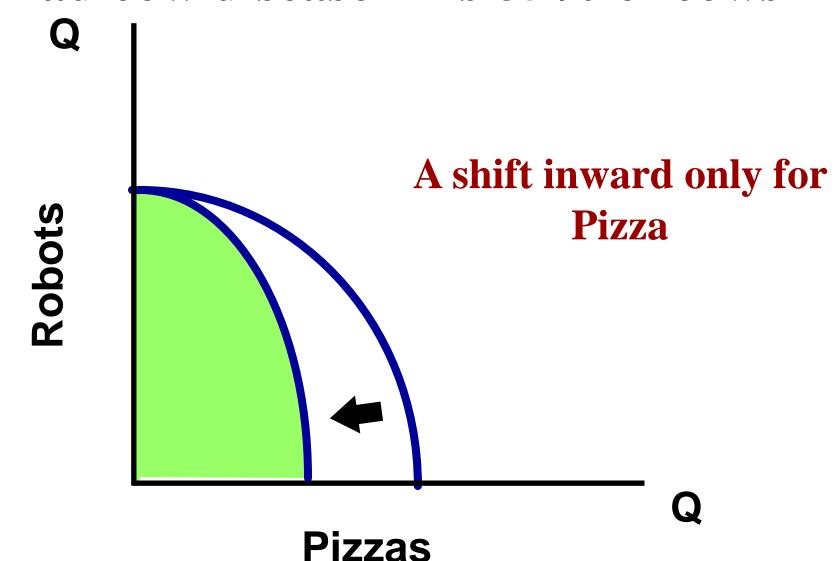
Question #2

Decrease in the demand for pizza

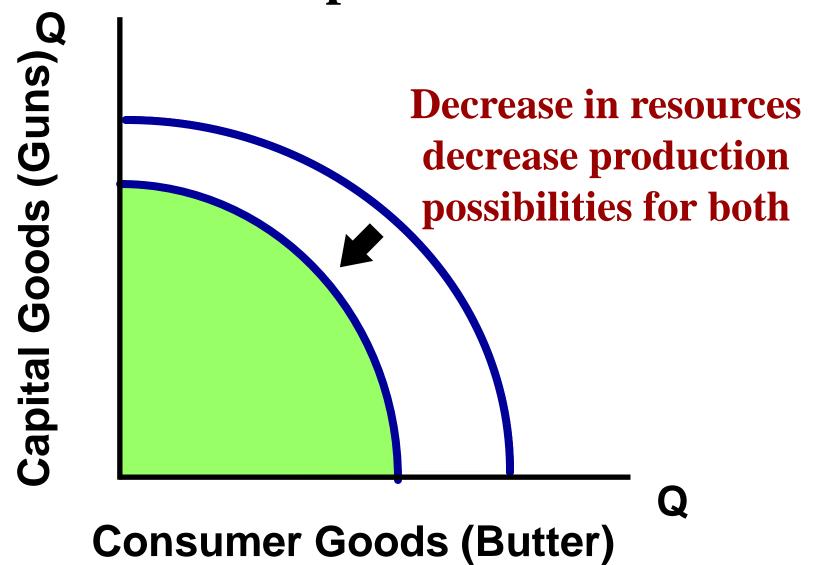


Question #3

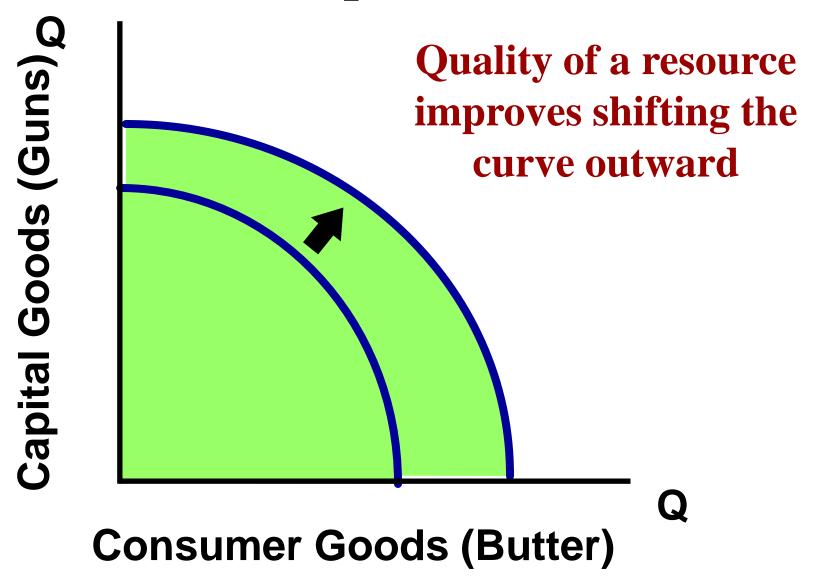
Mad cow disease kills 85% of cows



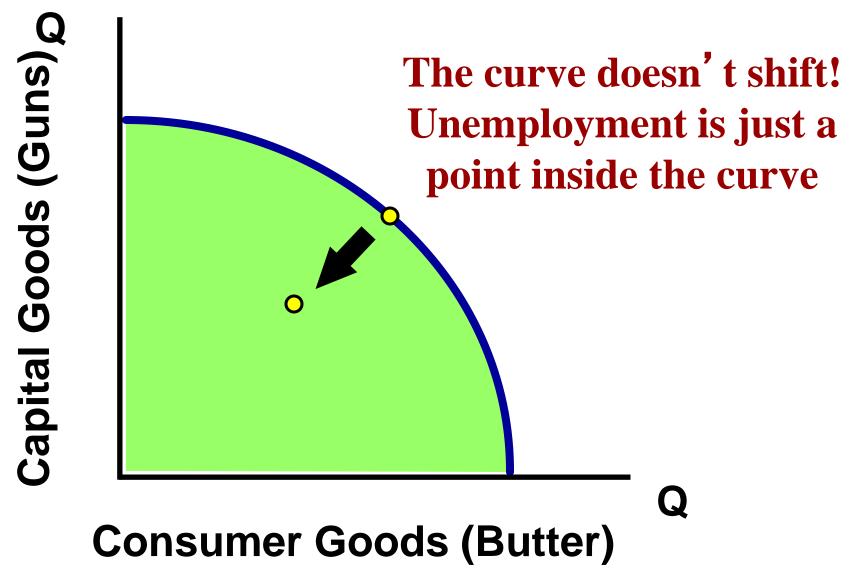
Question #4 BP Oil Spill in the Gulf



Question #5 Faster computer hardware

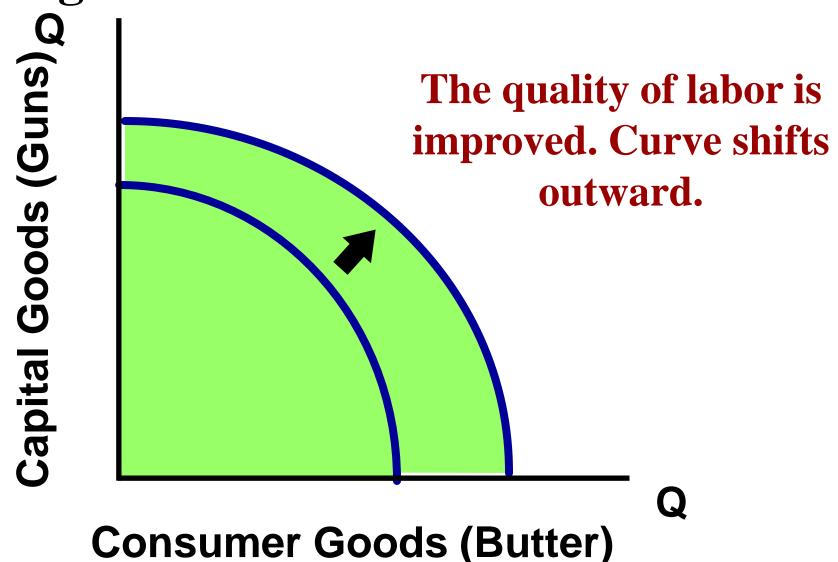


Question #6 Many workers unemployed

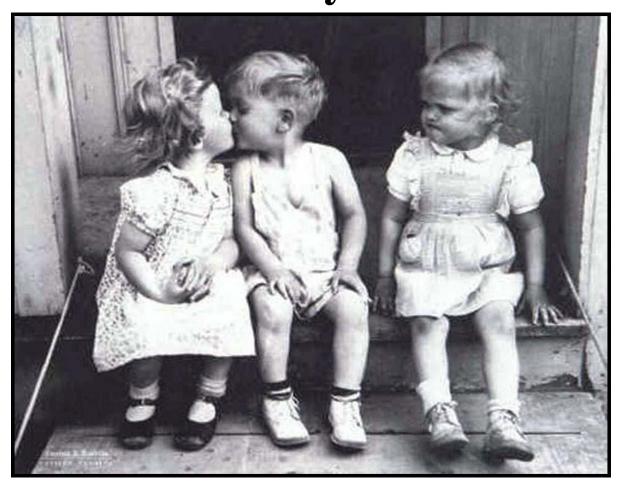


Question #7

Significant increases in education



Scarcity Means There Is Not Enough For Everyone



Government must step in to help allocate (distribute) resources

Every society must answer three questions:

The Three Economic Questions

- 1. What goods and services should be produced?
- 2. How should these goods and services be produced?
- 3. Who consumes these goods and services?

The way these questions are answered determines the economic system

An economic system is the method used by a society to produce and distribute goods and services.

Economic Systems

- Centrally-Planned
 (Command) Economy
- 2. Free Market Economy
- 3. Mixed Economy

Centrally-Planned Economies (aka Communism)

Centrally Planned Economies

In a centrally planned economy (communism) the government...

- 1. owns all the resources.
- 2. decides what to produce, how much to produce, and who will receive it.

Examples:

Cuba, China, North Korea, former Soviet Union

Why do centrally planned economies face problems of poor-quality goods, shortages, and unhappy citizens?

NO PROFIT MEANS NO INCENTIVES!!

Advantages and Disadvantages

What is GOOD about Communism?

- 1. Low unemploymenteveryone has a job
- 2. Great Job Securitythe government doesn't go out of business
- 3. Equal incomes means no extremely poor people
- 4. Free Health Care

What is BAD about Communism?

- 1. No incentive to work harder
- 2. No incentive to innovate or come up with good ideas
- 3. No Competition keeps quality of goods poor.
- 4. Corrupt leaders
- 5. Few individual freedoms

Free Market System (aka Capitalism)

Characteristics of Free Market

- Little government involvement in the economy.
 (Laissez Faire = Let it be)
- 2. Individuals OWN resources and answer the three economic questions.
- 3. The opportunity to make PROFIT gives people INCENTIVE to produce quality items efficiently.
- 4. Wide variety of goods available to consumers.
- 5. Competition and Self-Interest work together to regulate the economy (keep prices down and quality up).

Example of Free Market

Example of how the free market regulates itself:

If consumers want computers and only one company is making them...

Other businesses have the INCENTIVE to start making computers to earn PROFIT.

This leads to more COMPETITION....

Which means lower prices, better quality, and more product variety.

We produce the goods and services that society wants because "resources follow profits".

The End Result: Most efficient production of the goods that consumers want, produced at the lowest prices and the highest quality.

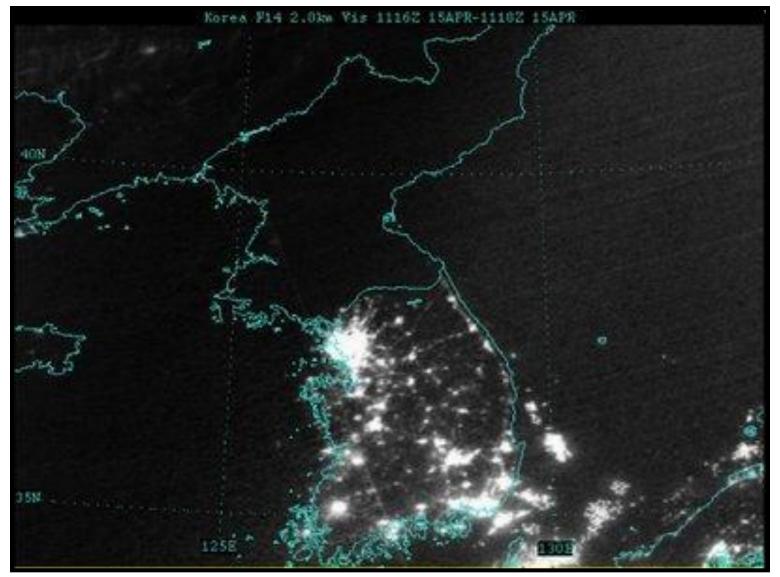
The Invisible Hand

The concept that society's goals will be met as individuals seek their own self-interest.

Example: Society wants fuel efficient cars...

- Profit seeking producers will make more.
- •Competition between firms results in low prices, high quality, and greater efficiency.
- •The government doesn't need to get involved since the needs of society are automatically met.

Competition and self-interest act as an <u>invisible</u> <u>hand</u> that regulates the free market.



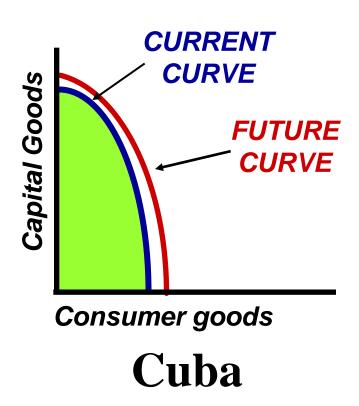
The difference between North and South Korea at night.

North Korea's GDP is \$40 Billion

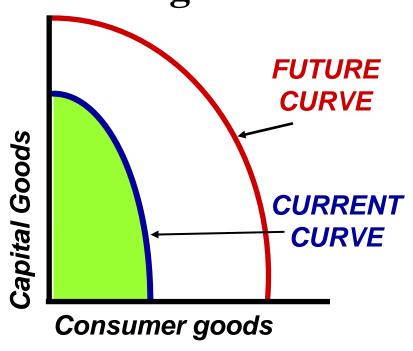
South Korea's GDP is \$1.3 Trillion (32 times greater).

Connection to the PPC

Communism in the Long Run



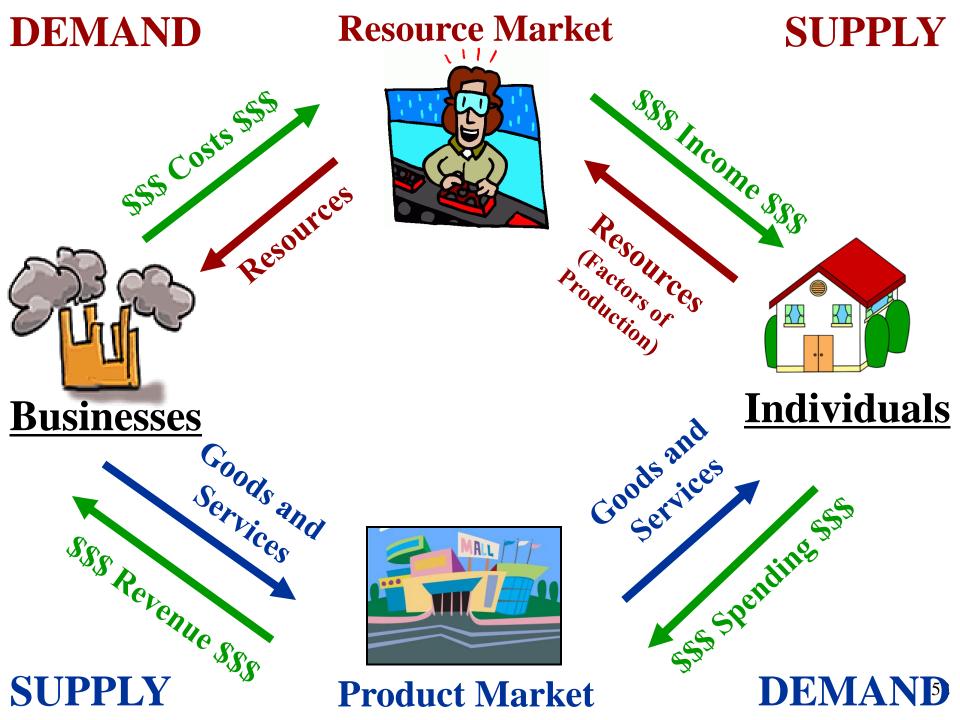
Free Markets in the Long Run



Puerto Rico

The Circular Flow Model

Supply and Demand



DEMAND DEFINED

What is Demand?

Demand is the different quantities of goods that consumers are willing and able to buy at different prices.

(Ex: Bill Gates is <u>able</u> to purchase a Ferrari, but if he isn't <u>willing</u> he has NO demand for one)

What is the Law of Demand?

The law of demand states There is an <u>INVERSE</u> relationship between price and quantity demanded

Why does the Law of Demand occur?

The law of demand is the result of three separate behavior patterns that overlap:

- 1. The Substitution effect
- 2. The Income effect
- 3.The Law of Diminishing Marginal Utility

We will define and explain each...

Why does the Law of Demand occur?

WE VS TO

1. The Substitution Effect

• If the price goes up for a product, consumer but less of that product and more of another substitute product (and vice versa)

2. The Income Effect

• If the price goes down for a product, the <u>purchasing power</u> increases for consumers - allowing them to purchase more.

Why does the Law of Demand occur?

3. Law of Diminishing Marginal Utility

U-TIL-IT-Y

- Utility = Satisfaction
- We buy goods because we get utility from them
- The law of diminishing marginal utility states that as you consume more units of any good, the additional satisfaction from each additional unit will eventually start to decrease
- In other words, the more you buy of ANY GOOD the less satisfaction you get from each new unit.

Discussion Questions:

- 1. What does this have to do with the Law of Demand?
- 2. How does this effect the pricing of businesses?

The Demand Curve

- A demand curve is a graphical representation of a demand schedule.
- The demand curve is downward sloping showing the inverse relationship between price (on the y-axis) and quantity demanded (on the x-axis)
- When reading a demand curve, assume all outside factors, such as income, are held constant. (This is called ceteris paribus)

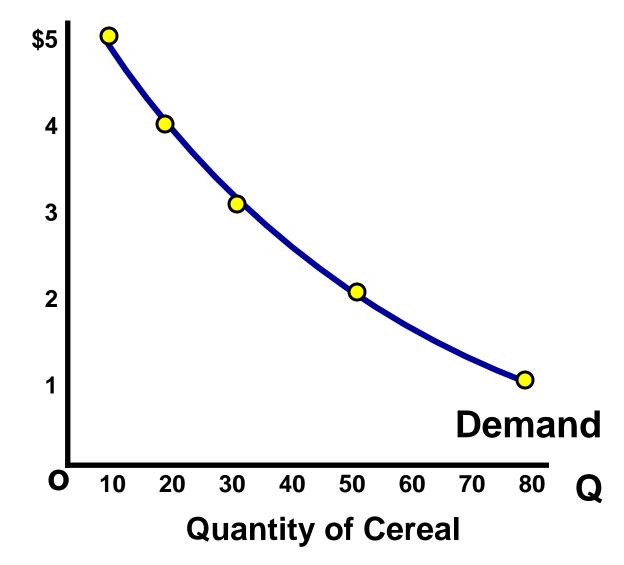
Let's draw a new demand curve for cereal...

GRAPHING DEMAND

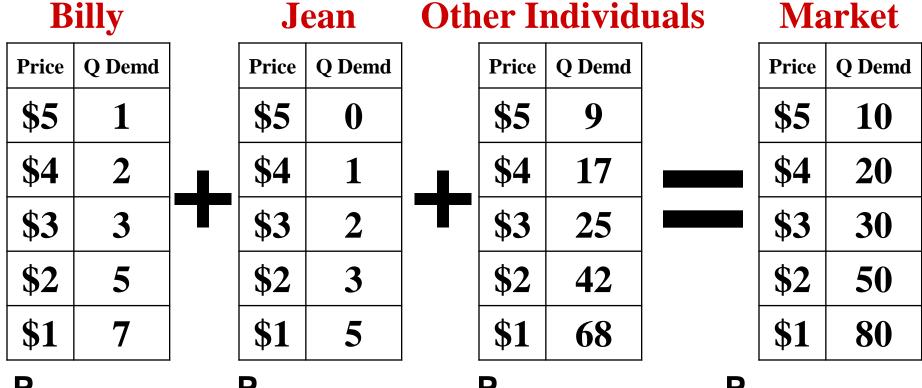
Demand Schedule

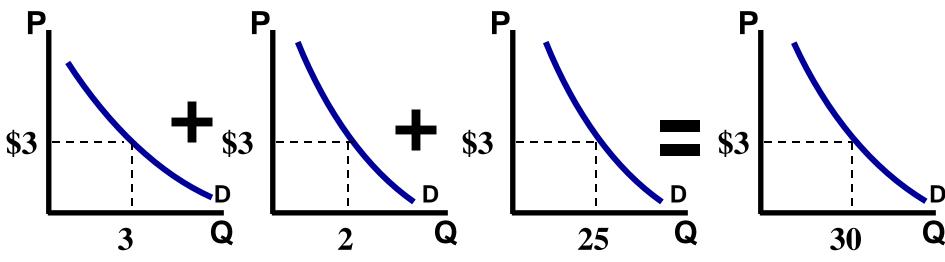
Price of Cereal

Price	Quantity Demanded	
\$5	10	
\$4	20	
\$3	30	
\$2	50	
\$1	80	



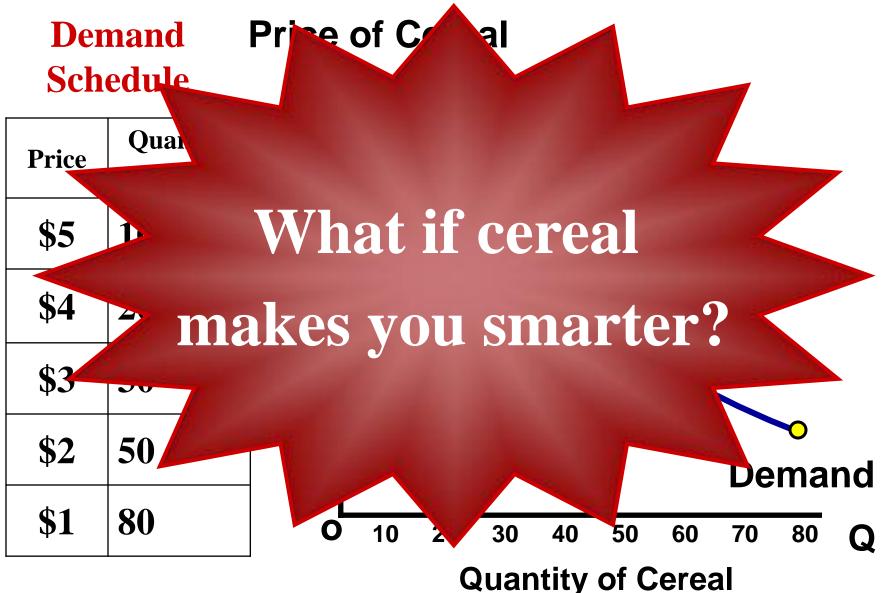
Where do you get the Market Demand?





Shifts in Demand

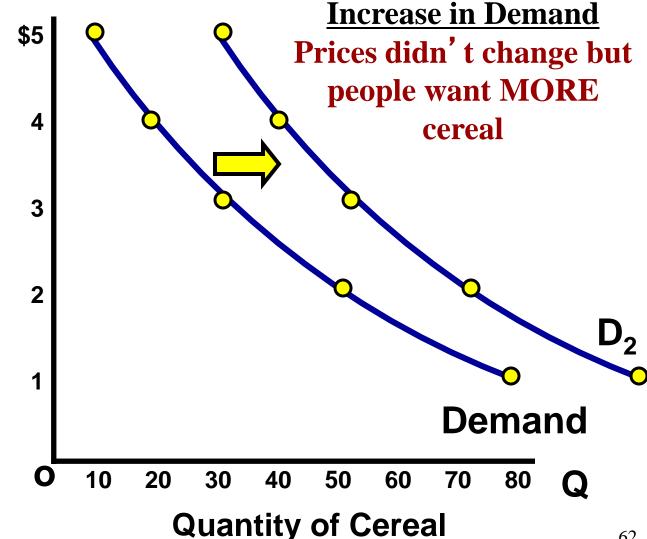
CHANGES IN DEMAND Ceteris parib held constant." When Changes in price den DON' T shift A sh ore the curve! good. This is a char lot a change in quantit, demanded

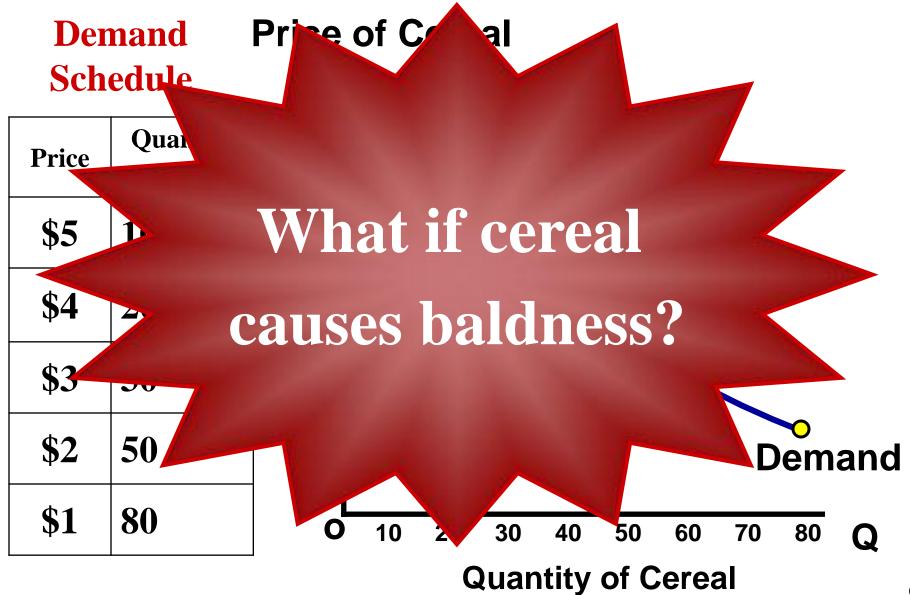


Demand Schedule

Price of Cerea	al
----------------	----

Price	Quantity Demanded	
\$5	10 30	
\$4	20 40	
\$3	3 0 50	
\$2	50 70	
\$1	80 100	

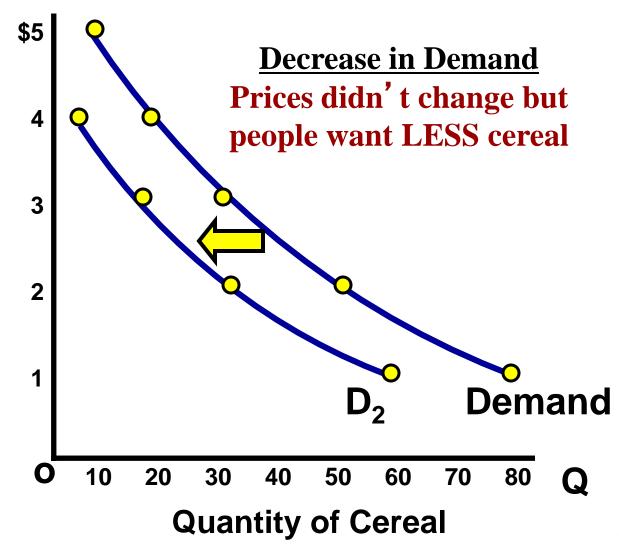




Demand Schedule

Price of Cereal

Price	Quantity Demanded	
\$5	10 0	
\$4	20 5	
\$3	3 0 20	
\$2	50 30	
\$1	80 60	



What Causes a Shift in Demand?

5 Determinates (SHIFTERS) of Demand:

- 1. Tastes and Preferences
- 2. Number of Consumers
- 3. Price of Related Goods
- 4. Income
- 5. Future Expectations

Changes in PRICE don't shift the curve. It only causes movement along the curve.

Prices of Related Goods

The demand curve for one good can be affected by a change in the price of ANOTHER related good.

- 1. Substitutes are goods used in place of one another.
 - If the price of one increases, the demand for the other will increase (or vice versa)
 - Ex: If price of Pepsi falls, demand for coke will...
- 2. Complements are two goods that are bought and used together.
 - If the price of one increase, the demand for the other will fall. (or vice versa)
 - Ex: If price of skis falls, demand for ski boots will...

Income

The incomes of consumer change the demand, but how depends on the type of good.

1. Normal Goods

- As income increases, demand increases
- As income falls, demand falls
- Ex: Luxury cars, Sea Food, jewelry, homes

2. Inferior Goods

- As income increases, demand falls
- As income falls, demand increases
- Ex: Top Romen, used cars, used cloths,



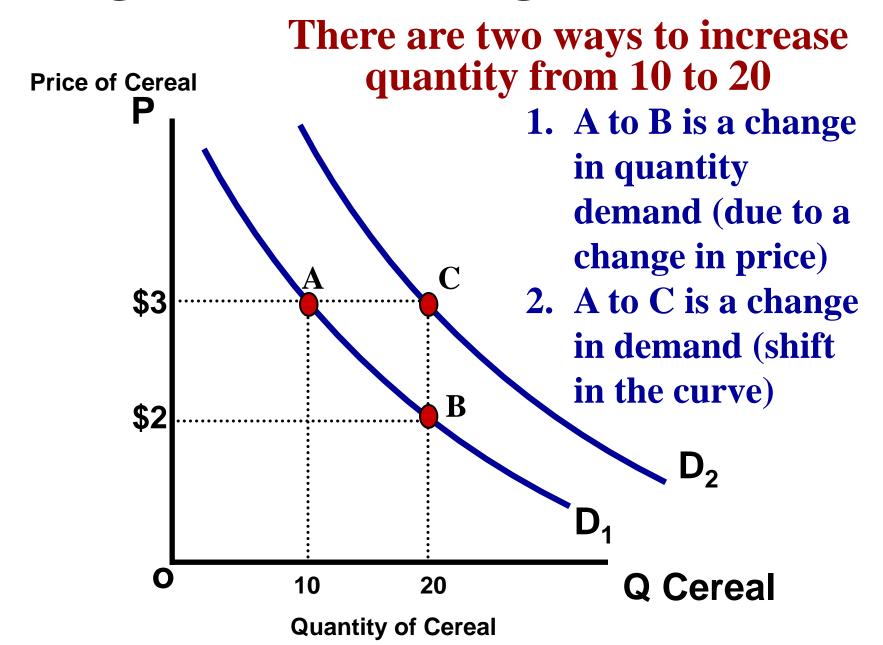








Change in Qd vs. Change in Demand



Practice

First, identify the determinant (shifter) then decide if demand will increase or decrease

	Shifter	Increase or Decrease	Left or Right
1			
2			
3			
4			
5			
6			
7			
8			

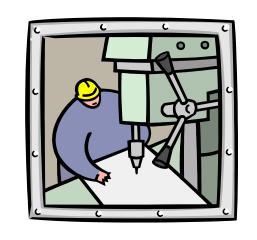
Practice

First identify the determinant (Shifter). Then decide if demand will increase or decrease

Hamburgers (a normal good)

- 1. Population boom
- 2. Incomes fall due to recession
- 3. Price for Carne Asada burritos falls to \$1
- 4. Price increases to \$5 for hamburgers
- 5. New health craze- "No ground beef"
- 6. Hamburger restaurants announce that they will significantly increase prices NEXT month
- 7. Government heavily taxes shake and fries causes their prices to quadruple.
- 8. Restaurants lower price of burgers to \$.50





Supply



Supply Defined

What is supply?

Supply is the different quantities of a good that sellers are willing and able to sell (produce) at different prices.

What is the Law of Supply?

There is a DIRECT (or positive) relationship between price and quantity supplied.

- •As price increases, the quantity producers make increases
- •As price falls, the quantity producers make falls.

Why? Because, at higher prices profit seeking firms have an incentive to produce more.

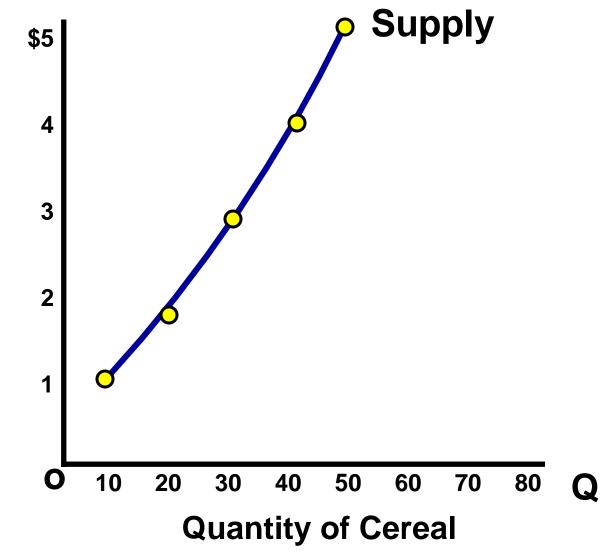
EXAMPLE: Mowing Lawns

GRAPHING SUPPLY

Supply Schedule

Price of Cereal

Price	Quantity Supplied
\$5	50
\$4	40
\$3	30
\$2	20
\$1	10



GRAPHING SUPPLY

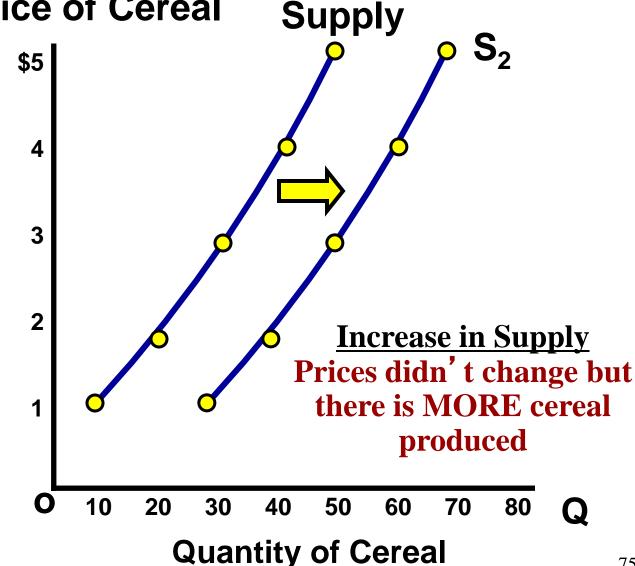


Change in Supply

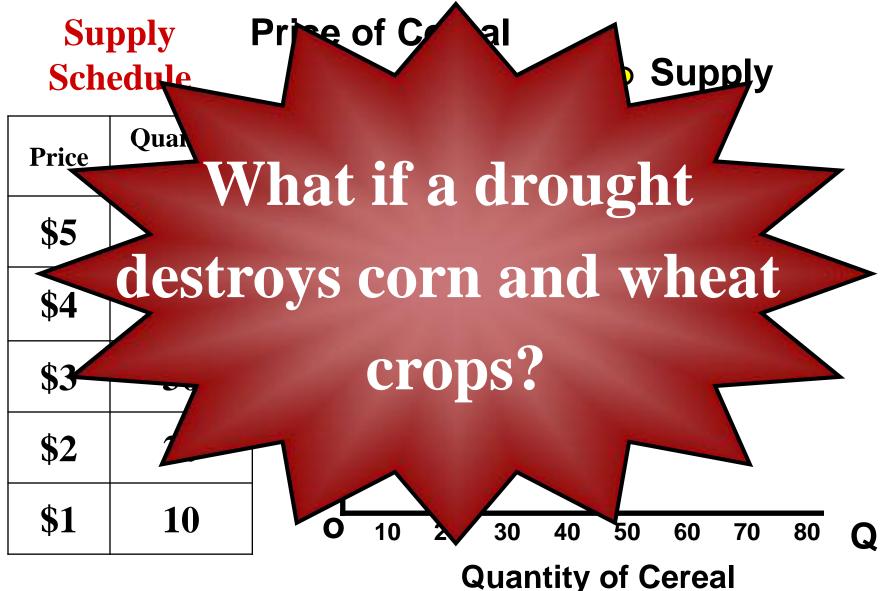
Price of Cereal

Supply **Schedule**

Price	Quantity Supplied	
\$5	56 70	
\$4	40 60	
\$3	3 0 50	
\$2	20 40	
\$1	10 30	



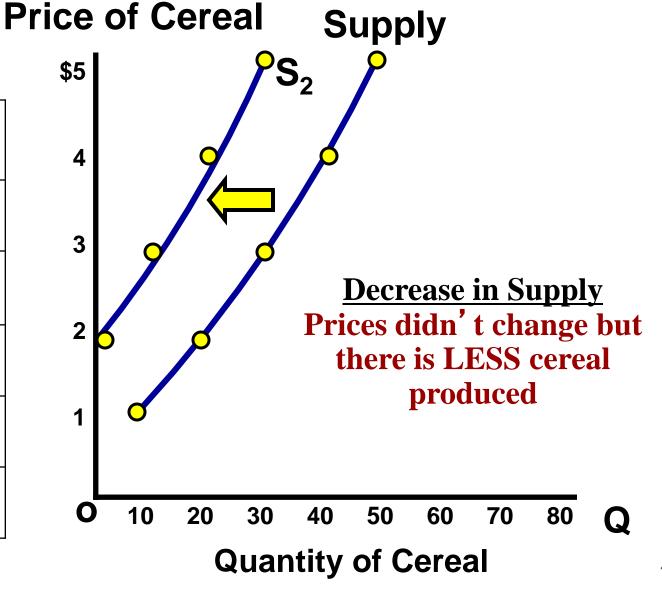
Change in Supply



Change in Supply

Supply Schedule

Price	Quantity Supplied	
\$5	50 30	
\$4	40 20	
\$3	3 0 10	
\$2	20 1	
\$1	16 0	



- 6 Determinants (SHIFTERS) of Supply
- 1. Prices/Availability of inputs (resources)
- 2. Number of Sellers
- 3. Technology
- 4. Government Action: Taxes & Subsidies

Subsidies

A **subsidy** is a government payment that supports a business or market. Subsidies cause the supply of a good to increase.

- 5. Opportunity Cost of Alternative Production
- 6. Expectations of Future Profit

Changes in PRICE don't shift the curve. It only causes movement along the curve.

Supply Practice

First, identify the determinant (shifter) then decide if supply will increase or decrease

	Shifter	Increase or Decrease	Left or Right
1			
2			
3			
4			
5			
6			

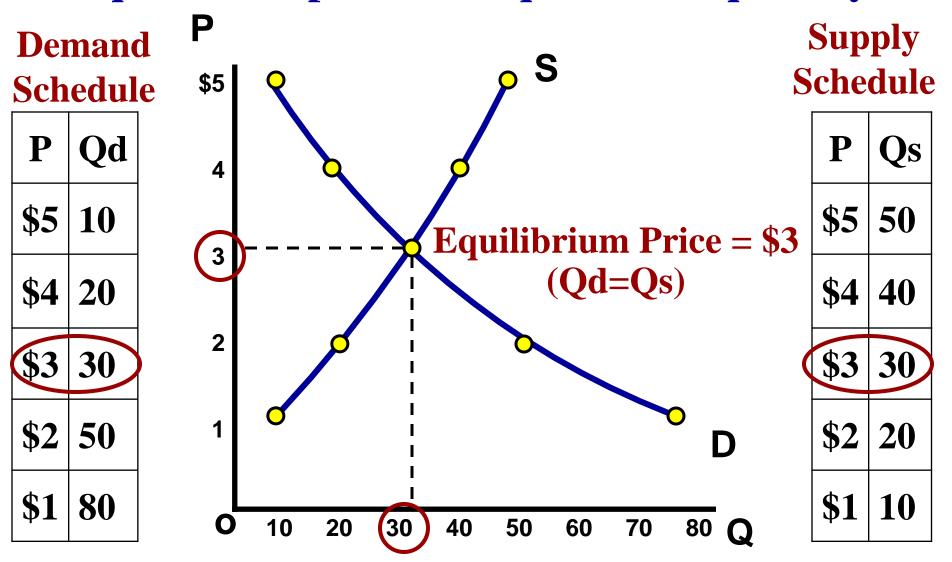
Supply Practice

- 1. Which determinant (SHIFTER)?
- 2. Increase or decrease?
- 3. Which direction will curve shift?

Hamburgers

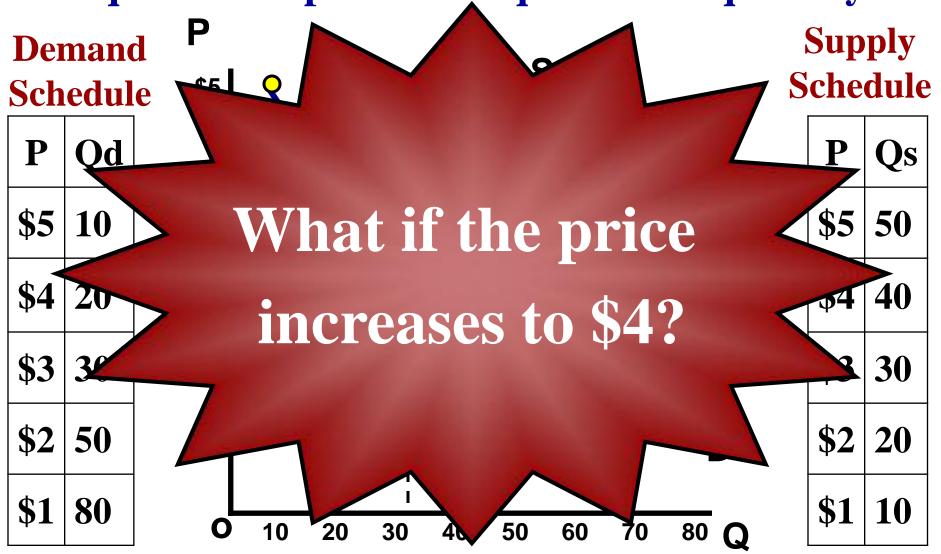
- 1. Mad cow kills 20% of cows
- 2. Price of burgers increase 30%
- 3. Government taxes burger producers
- 4. Restaurants can produce burgers and/or tacos. A demand increase causes the price for tacos to increase 500%
- 5. New bun baking technology cuts production time in half
- 6. Minimum wage increases to \$10

Supply and Demand are put together to determine equilibrium price and equilibrium quantity

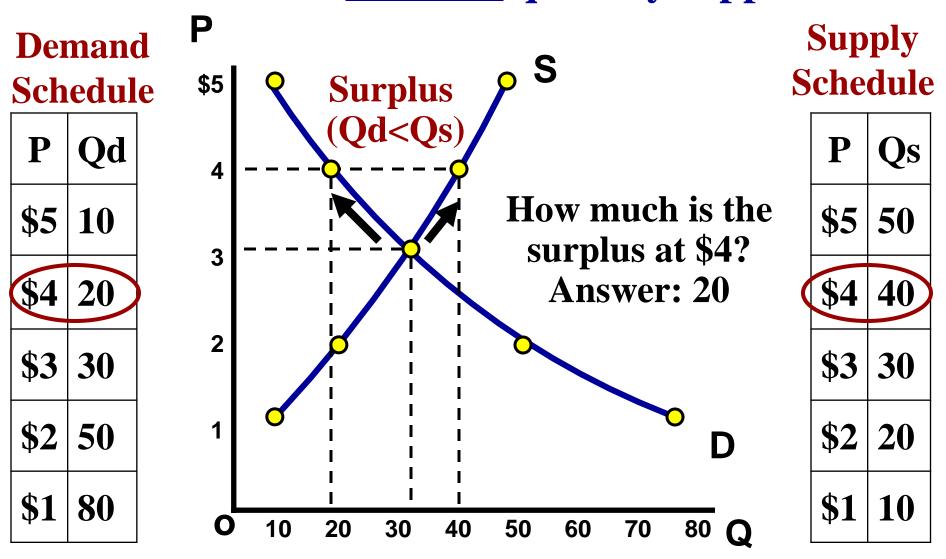


Equilibrium Quantity is 30

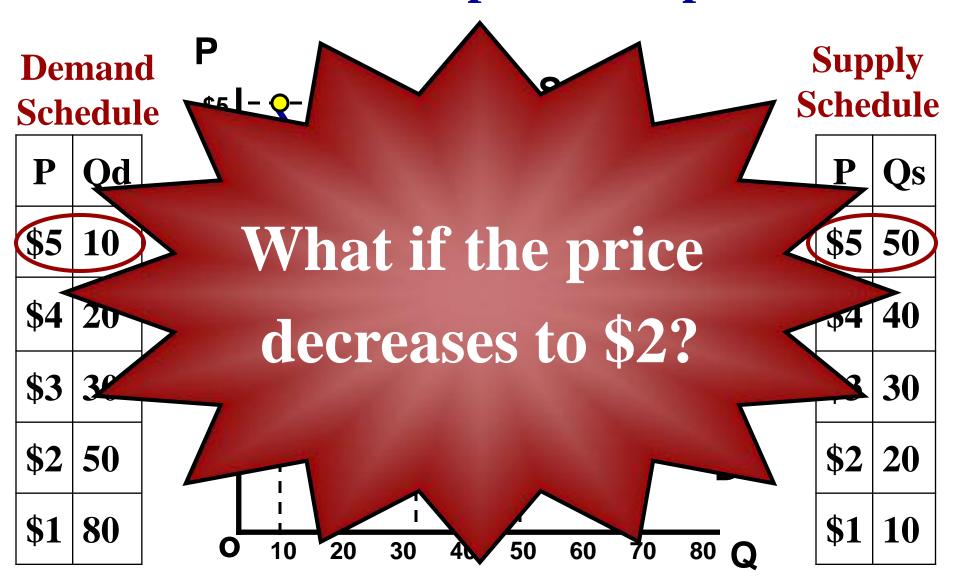
Supply and Demand are put together to determine equilibrium price and equilibrium quantity



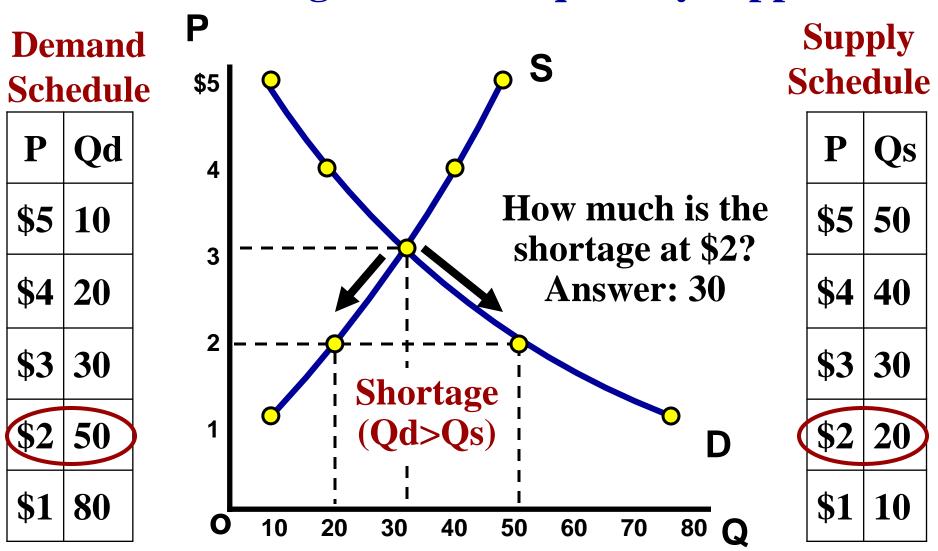
At \$4, there is disequilibrium. The quantity demanded is <u>less than</u> quantity supplied.



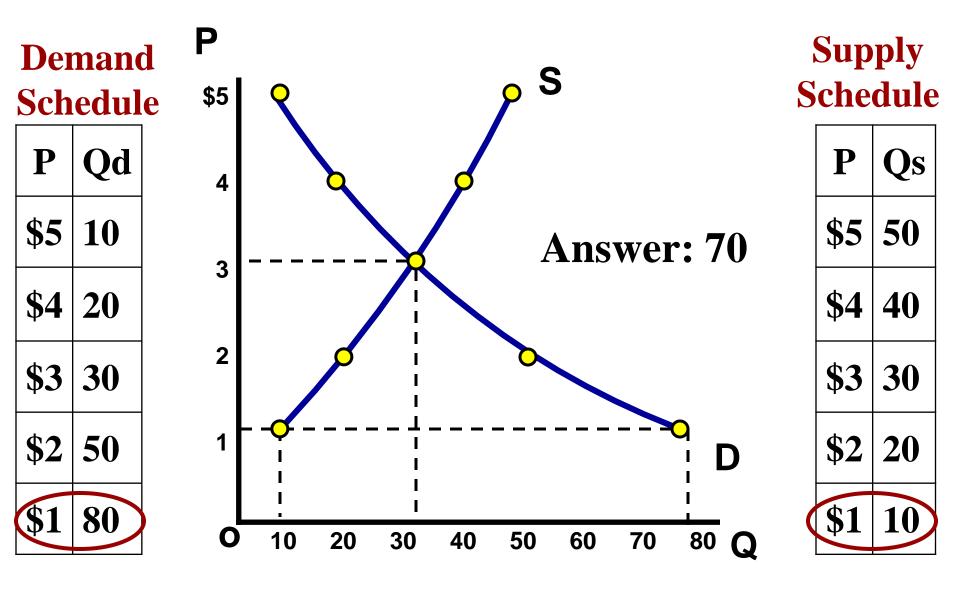
How much is the surplus if the price is \$5?



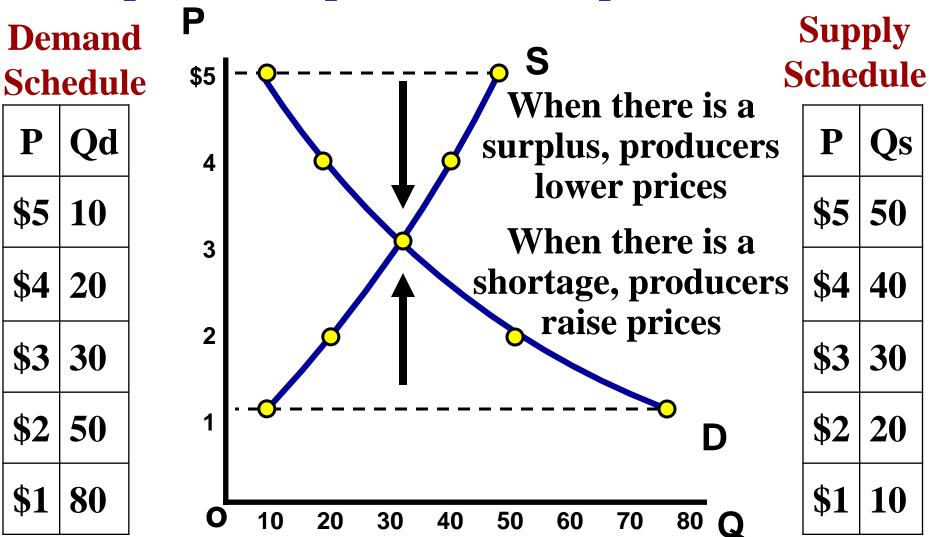
At \$2, there is disequilibrium. The quantity demanded is greater than quantity supplied.



How much is the shortage if the price is \$1?



The FREE MARKET system automatically pushes the price toward equilibrium.



Shifting Supply and Demand

Supply and Demand Analysis

Easy as 1, 2, 3

1. Before the change:

- Draw supply and demand
- Label original equilibrium price and quantity

2. The change:

- Did it affect supply or demand <u>first</u>?
- Which determinant caused the shift?
- Draw increase or decrease

3. After change:

- Label new equilibrium?
- What happens to Price? (increase or decrease)
- What happens to Quantity? (increase or decrease)

Let's Practice!

S&D Analysis Practice

- 1. Before Change (Draw equilibrium)
- 2. The Change (S or D, Identify Shifter)
- 3. After Change (Price and Quantity After)

Analyze Hamburgers

- 1. Price of sushi (a substitute) increases
- 2. New grilling technology cuts production time in half
- 3. Price of burgers falls from \$3 to \$1.
- 4. Price for ground beef triples
- 5. Human fingers found in multiple burger restaurants.

Double Shifts



- Suppose the demand for sports cars fell at the same time as production technology improved.
- Use S&D Analysis to show what will happen to PRICE and QUANTITY.

If TWO curves shift at the same time, EITHER price or quantity will be indeterminate.

Voluntary Exchange Terms

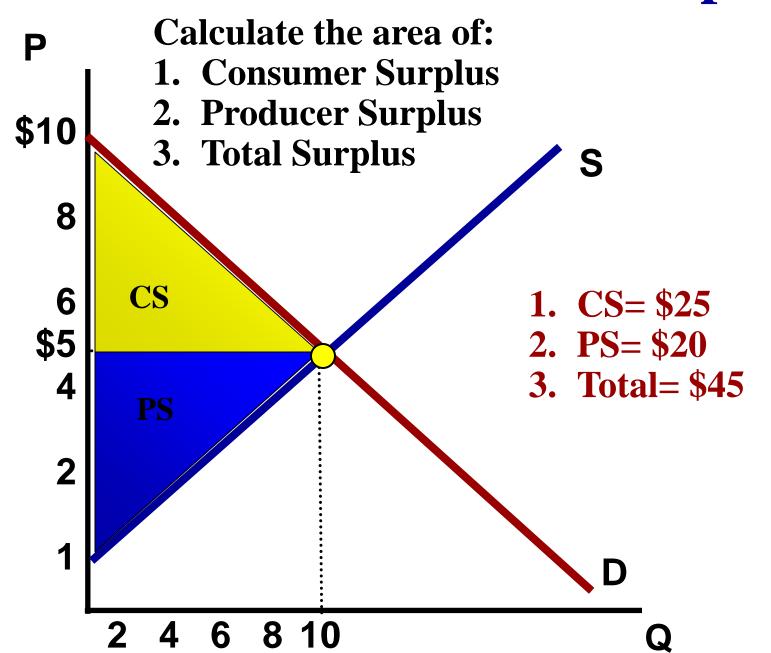
Consumer Surplus is the difference between what you are willing to pay and what you actually pay.

CS = Buyer's Maximum – Price

Producer's Surplus is the difference between the price the seller received and how much they were willing to sell it for.

PS = Price - Seller's Minimum

Consumer and Producer's Surplus



Government Involvement

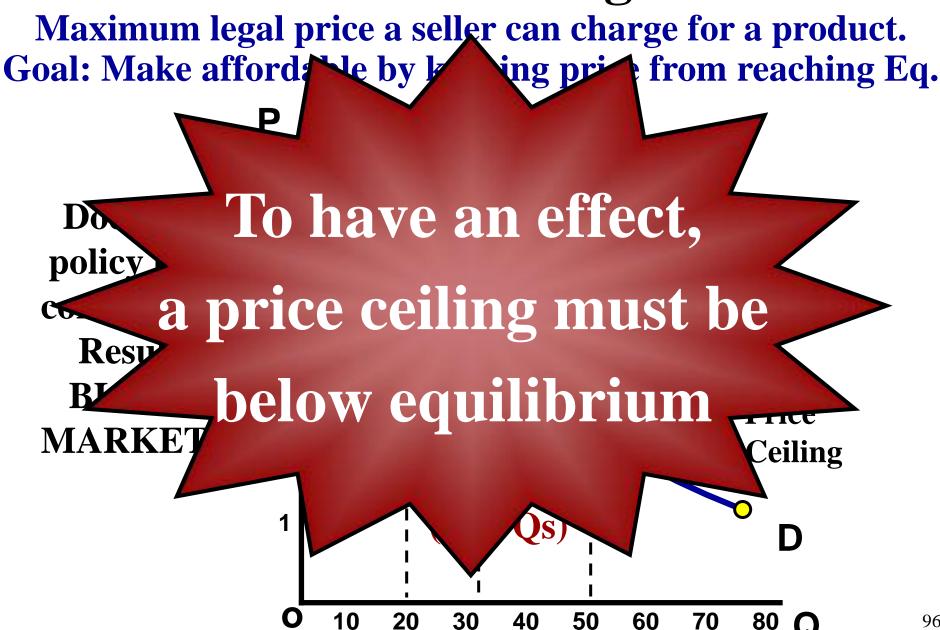
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#1-Price Controls: Floors and Ceilings
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- **#2-Import Quotas**
- #3-Subsidies
- **#4-Excise Taxes**

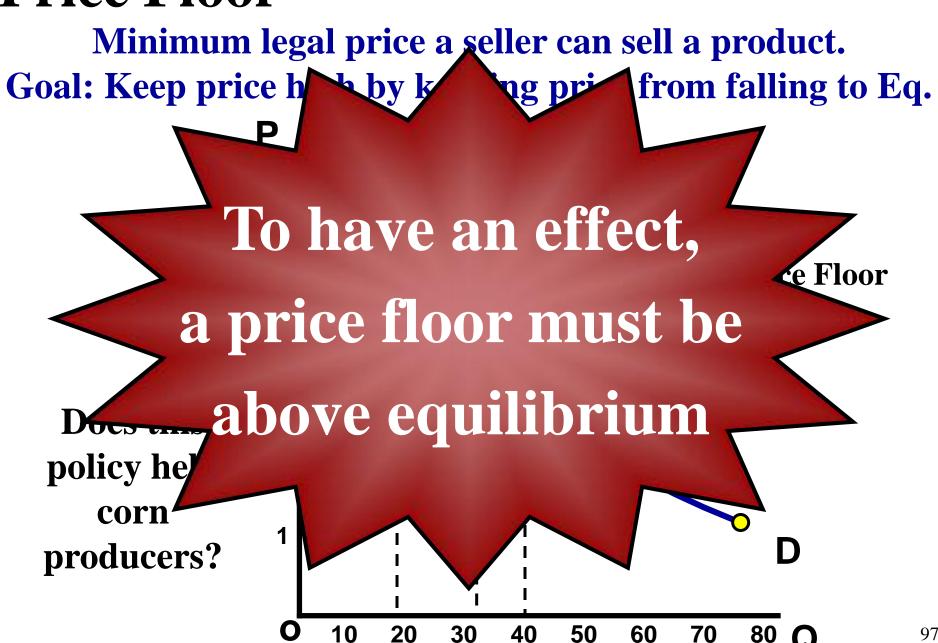
#1-PRICE CONTROLS

Who likes the idea of having a price ceiling on gas so prices will never go over \$1 per gallon?

Price Ceiling

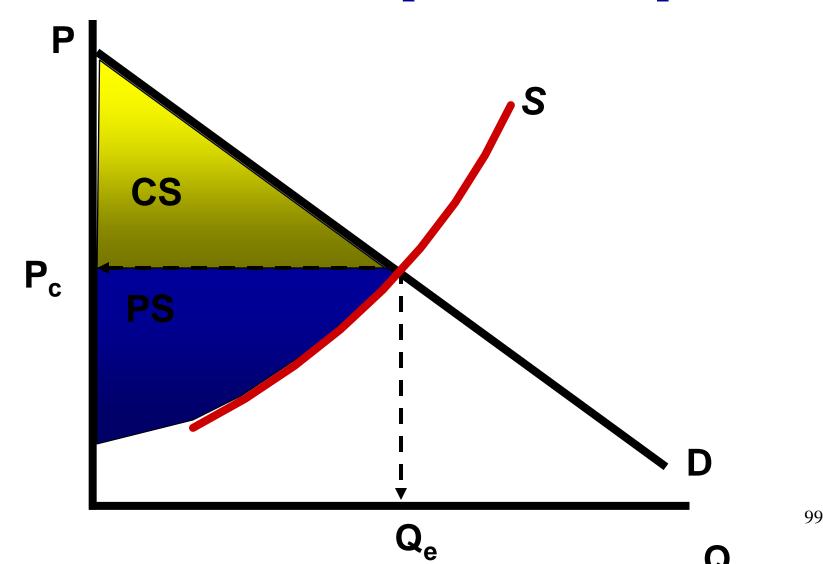


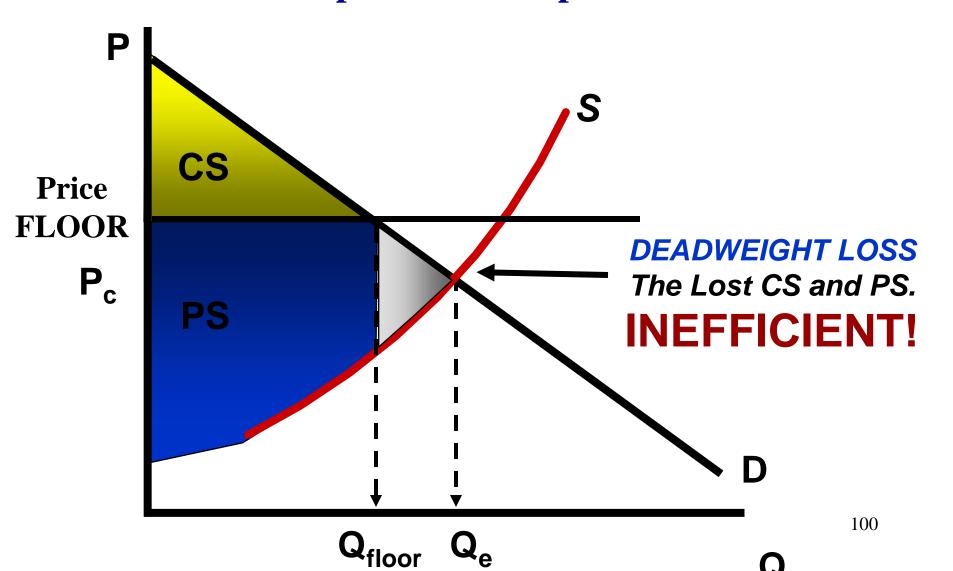
Price Floor

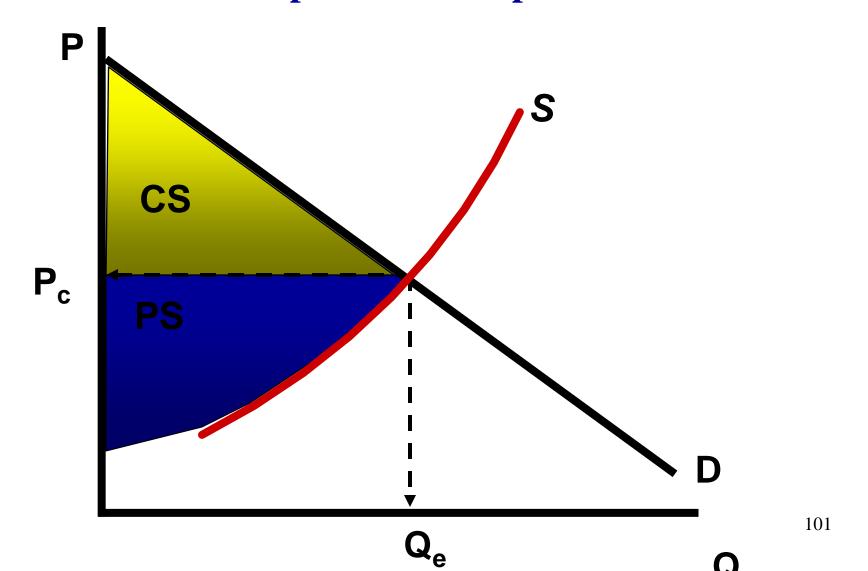


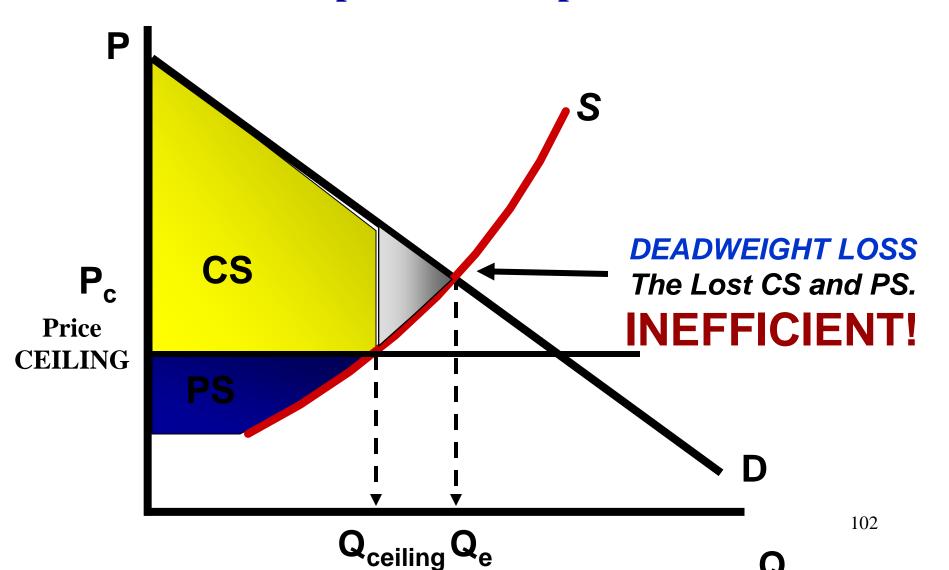
Practice Questions

- 1. Which of the following will occur if a legal price floor is placed on a good below its free market equilibrium?
 - A. Surpluses will develop
 - B. Shortages will develop
 - C. Underground markets will develop
 - D. The equilibrium price will ration the good
 - E. The quantity sold will increase
- 2. Which of the following statements about price control is true?
 - A. A price ceiling causes a shortage if the ceiling price is above the equilibrium price
 - B. A price floor causes a surplus if the price floor is below the equilibrium price
 - C. Price ceilings and price floors result in a misallocation of resources
 - D. Price floors above equilibrium cause a shortage











#2 Import Quotas

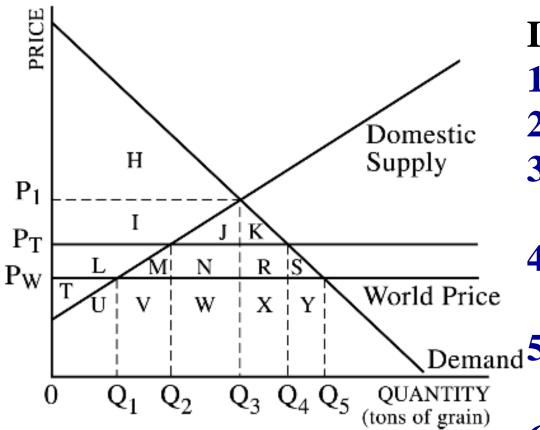
A quota is a limit on number of exports.

The government sets the maximum amount that can come in the country.

Purpose:

- •To protect domestic producers from a cheaper world price.
- •To prevent domestic unemployment

International Trade and Quotas



This graphs show the domestic supply and demand for grain. The letters represent area.

Identify the following:

- 1. CS with no trade
- 2. PS with no trade
- 3. CS if we trade at world price (P_w)
- 4. PS if we trade at world price (P_w)
- Demand 5. Amount we import at world price (P_W)
 - 6. If the government sets a quota on imports of Q_4 $Q_{2,}$ what happens to CS and PS?

#3 Subsidies

The government just gives producers money. The goal is for them to make more of the goods that the government thinks are important.

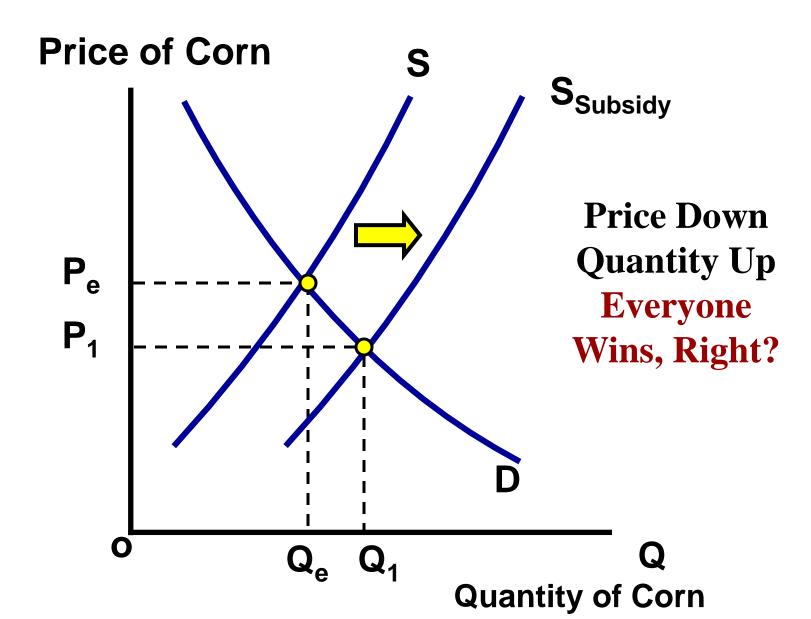
Ex:

- Agriculture (to prevent famine)
- Pharmaceutical Companies
- •Environmentally Safe Vehicles
- •FAFSA





Result of Subsidies to Corn Producers



#4 Excise Taxes

Excise Tax = A per unit tax on <u>producers</u>

For every unit made, the producer must pay \$ NOT a Lump Sum (one time only)Tax
The goal is for them to make less of the goods that the government deems dangerous or unwanted.



Ex:

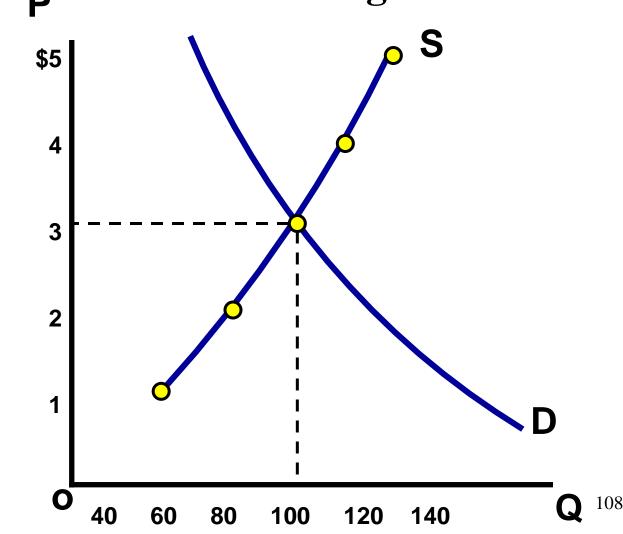
- Cigarettes "sin tax"
- •Alcohol "sin tax"
- Tariffs on imported goods
- •Environmentally Unsafe Products
- •Etc.

Excise Taxes

Supply Schedule

P	Qs
\$5	140
\$4	120
\$3	100
\$2	80
\$1	60

Government sets a \$2 per unit tax on Cigarettes

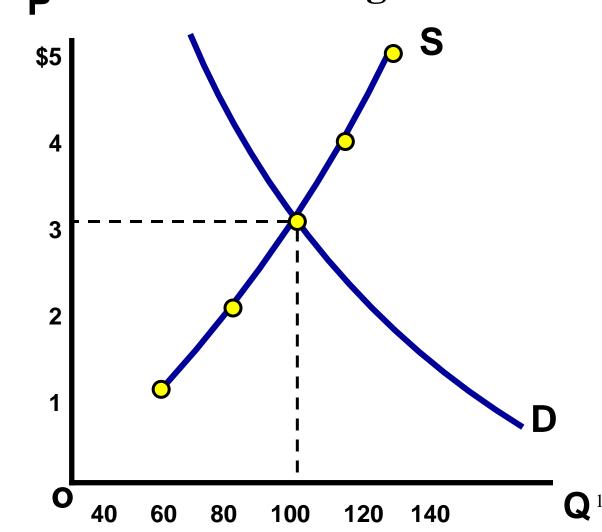


Excise Taxes

Supply Schedule

P	Qs
\$5 \$7	140
\$4 \$6	120
\$5 \$5	100
\$2 \$4	80
\$1 \$3	60

Government sets a \$2 per unit tax on Cigarettes



Supply Schedule

P	Qs
\$5 \$7	140
\$4 \$6	120
\$5 \$5	100
\$2 \$4	80
\$2 \$3	60

