

Principles of Microeconomics Supply and Demand

Prof. Dr. Dennis A. V. Dittrich

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Suppose the table below shows the number of labor hours needed to produce airplanes and automobiles in the United States and South Korea, but one of the numbers is unknown.

	Hours for 1 Airplane	Hours for 1 Car
South Korea	2000	?
USA	800	5

1. Without knowing the number of labor hours required to produce an auto in South Korea, you can't figure out which country has the comparative advantage in which good. Can you give an example of a number for the empty cell of the table that would give the United States the comparative advantage in the production of airplanes? What about South Korea?
2. Who has the absolute advantage in the production of airplanes? What about autos?
3. What exact number would you have to place in the empty cell of the table for it to be impossible that trade between the United States and South Korea could benefit both nations?

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Conan O'Brien has been a talk show host since 1993, but he began his career in comedy as a writer: first at the Harvard Lampoon while in college, then eventually at Saturday Night Live and The Simpsons. Given that he is such an accomplished comedy writer, it might be surprising to learn that his current talk show staff includes over a dozen writers.

- ▶ How can you explain this using what we have discussed so far?
- ▶ Is Conan not capable enough a writer to write his own show, or is there some other explanation?
- ▶ Suppose none of Conan's writers are as funny a writer as he is; is it still possible that hiring a writing staff makes the show funnier?

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In each of the cases below, who has the absolute advantage at each task, and who has the comparative advantage?

1. Kara can build two glass sculptures per day or she can design two full-page newspaper advertisements per day. Sara can build one glass sculpture per day or design four full-page newspaper ads per day.
2. Data can write 12 excellent poems per day or solve 100 difficult physics problems per day. Riker can write one excellent poem per day or solve 0.5 difficult physics problems per day.

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The US federal education reform law known as No Child Left Behind requires every US state to create standardized tests that measure whether students have mastered key subjects. Since the same test is given to all students in the same grade in the state, this encourages all schools within a state to cover the same material. According to the division of knowledge model, what are the costs of this approach?

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Many people talk about jobs leaving the United States and going to other places, like China. Why isn't it possible for all jobs to leave the United States and go overseas (as some people fear)?

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Sellers

- ▶ cost of providing one unit of commodity
- ▶ Profit of the seller:
Sale price - Costs

Buyers

- ▶ Value of acquiring one unit of good
- ▶ Profit of the buyers:
Value of the good - Price

Tasks

- ▶ Find a trading partner, and buy/sell one unit of the good. Until then, keep in secret the number on your card. You can only buy/sell one unit of good.
- ▶ Write down the agreed price in the back of your card.
- ▶ Tell the sale price to the experimenter, so that everybody can be informed about the successful transaction.
- ▶ Stand aside. Calculate your profit. The participant with the highest profit will receive a small reward.
- ▶ You are not allowed to make a loss!

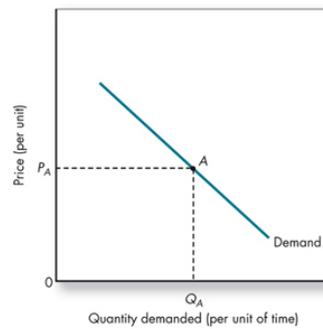
Market – My Prediction

Quantity: 10
Price: 9-12

Demand

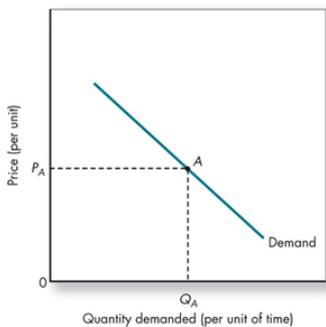
Value of the good to buyers:
6,6,8,8,10,10,12,12,14,14,16,16,18,18,20,20

Demand



- ▶ The law of demand states that the quantity of a good demanded is inversely related to the good's price
- ▶ In other words, other things equal,
 - ▶ Quantity demanded rises as price falls
 - ▶ Quantity demanded falls as price rises
- ▶ As prices change, people change how much they're willing to buy
- ▶ The law of demand is based on the fact that when prices for a good rise, people substitute away from that good to other goods

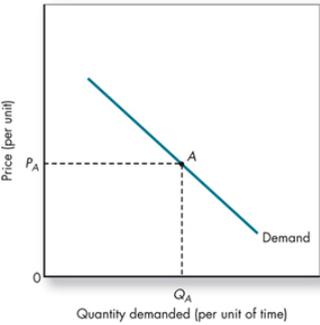
Reading Demand Curves



- ▶ Horizontally:
How much buyers are willing and able to purchase
- ▶ Vertically:
The highest price buyers are willing to pay for a certain quantity.

What should happen to the "demand for speed" (measured by the average speed on highways) once airbags are included on cars?

Consumer Surplus



- ▶ Consumer Surplus is the consumer's gain from exchange, the difference between the highest price a consumer would pay at a given quantity and the actual market price.
- ▶ Total consumer surplus is the sum of consumer surplus of all buyers

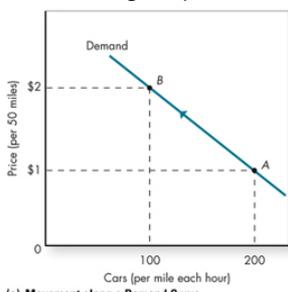
Consumer Surplus

What was the consumer surplus in the experiment?

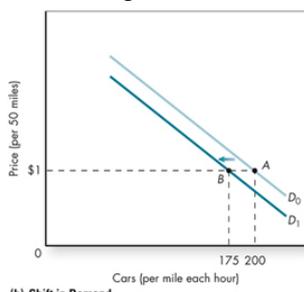
Shifts in Demand versus Movements Along a Demand Curve

Quantity demanded refers to a specific amount that will be demanded per unit of time at a specific price, other things constant

- ▶ Refers to a specific point on the demand curve
- ▶ A change in price causes a change in quantity demanded
- ▶ A change in price causes a movement along the demand curve



(a) Movement along a Demand Curve

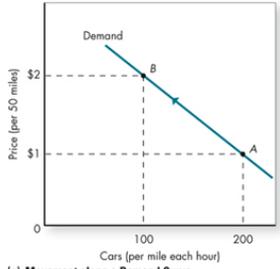


(b) Shift in Demand

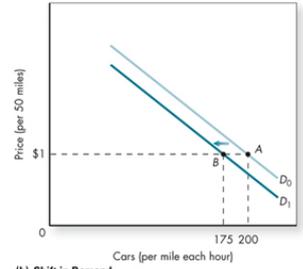
Shifts in Demand versus Movements Along a Demand Curve

Demand refers to a schedule of quantities of a good that will be bought per unit of time at various prices, other things constant

- ▶ Refers to the entire demand curve
- ▶ Demand tells us how much will be bought at various prices
- ▶ A change in anything other than price that affects the demand curve changes the entire demand curve
- ▶ A change in the entire demand curve is a shift in demand



(a) Movement along a Demand Curve



(b) Shift in Demand

When the price of Apple computers goes down, what probably happens to the demand for Windows-based computers?

If everyone thinks that the price of gasoline will go up next week, what is likely to happen to the demand for gasoline today?

For most young people, working full time and going to school are substitutes:

You tend to do one or the other. When it's tough to find a job, does that raise the opportunity cost of going to college or does it lower it? When it's tough to find a job, does the demand for college rise or fall?

What (other) factors could shift the demand?

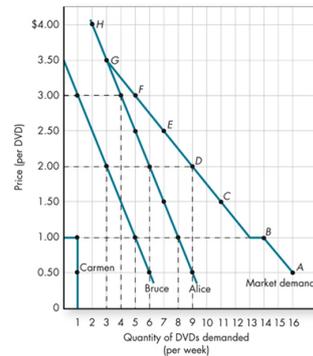
Shift Factors in Demand

Important demand shift factors include:

1. (Society's) income
2. The prices of other goods
3. Tastes
4. Expectations
5. Taxes and subsidies to consumers
6. (Size of the) Population

Individual and Market Demand Curves

Price per DVD	Alice's Demand	Bruce's Demand	Carmen's Demand	Market Demand
1	8	5	1	14
2	6	3	0	9
3	4	1	0	5
4	2	0	0	2



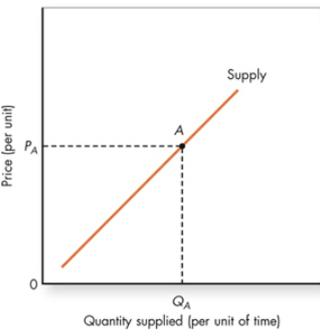
What is my Demand Curve?

I would never buy a Lady Gaga CD. You couldn't even give me one for free.

Supply

Cost of producing one unit of the Good:
5,5,6,6,7,7,8,8,9,9,11,12,13,14,15

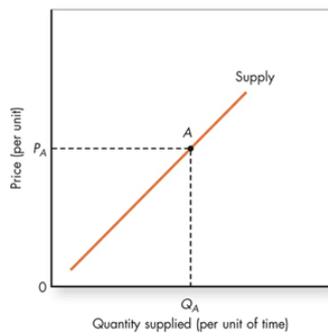
Supply



- ▶ The quantity of a good supplied is typically directly related to the good's price
- ▶ In other words, other things equal,
 - ▶ Quantity supplied rises as price rises
 - ▶ Quantity supplied falls as price falls
- ▶ This occurs because:
 - When prices rise, firms substitute production of one good for another

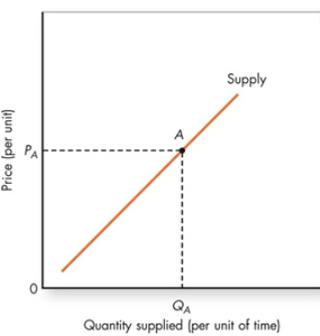
▶ Assuming firm's costs are constant, a higher price means higher profit

Reading the Supply Curve



- ▶ Horizontally: How much suppliers are able to sell at a certain price
- ▶ Vertically: The minimum price for which suppliers are willing to sell a certain quantity

Producer Surplus



- ▶ Producer Surplus is the producer's gain from exchange, the difference between the lowest price at which a producer would sell a given quantity and the actual market price.
- ▶ Total producer surplus is the sum of producer surplus of all sellers

Producer Surplus

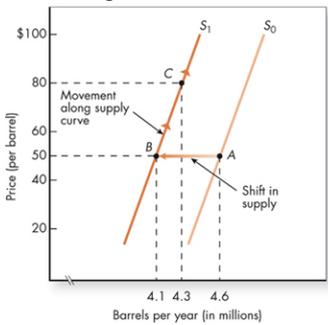
Michael is an economist. He loves being an economist so much that he would do it for a living even if he only earned \$30,000 per year. Instead, he earns \$80,000 per year. How much producer surplus does Michael enjoy?

What was the producer surplus in the experiment?

Shifts in Supply versus Movements Along a Supply Curve

Quantity supplied refers to a specific amount that will be supplied per unit of time at a specific price, other things constant

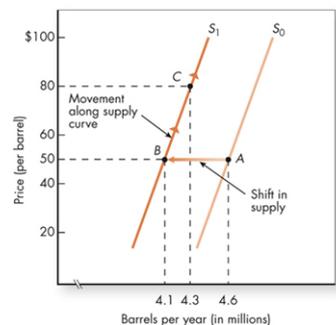
- ▶ Refers to a specific point on the supply curve
- ▶ A change in price causes a change in quantity supplied
- ▶ A change in price causes a movement along the supply curve



Shifts in Supply versus Movements Along a Supply Curve

Supply refers to a schedule of quantities of a good a seller is willing to sell per unit of time at various prices, other things constant

- ▶ Refers to the entire supply curve
- ▶ Supply tells us how much will be sold at various prices
- ▶ A change in anything other than price that affects the supply curve changes the entire supply curve
- ▶ A change in the entire supply curve is a shift in supply



Shift Factors in Supply: Changes in Opportunity Costs

Consider farmers who have land that is suitable for growing both wheat and soybeans. Suppose all farmers are currently farming wheat but the price of soybeans rises dramatically.

- ▶ Does the opportunity cost of producing wheat rise or fall?
- ▶ Does this shift the supply curve for wheat, or is it a movement along a fixed supply curve?

- ▶ Inputs used in production have opportunity costs. Sellers will choose to use those inputs where the profit is the highest
- ▶ Sellers will supply less of a good if the price of an alternative good using the same inputs rises (and vice versa)

Imagine that a technological innovation reduces the costs of producing high-quality steel. What happens to the supply curve for steel?

What (other) factors may shift the supply curve?

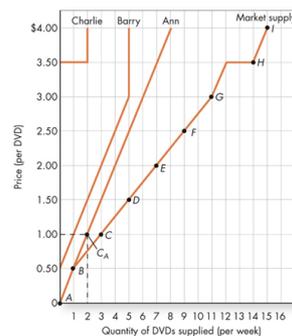
Shift Factors in Supply

Important supply shift factors include:

1. Price of inputs
2. Technology
3. Expectations
4. Taxes and subsidies
5. Entry or Exit of Producers
6. Changes in Opportunity Costs

Individual and Market Supply Curves

Price per DVD	Ann's Supply	Barry's Supply	Charlie's Supply	Market Supply
1	2	1	0	3
2	4	3	0	7
3	6	5	0	11
4	8	5	2	15



(b) Adding Supply Curves

If the price of glass dramatically increases, what are we likely to see a lot less of:
Glass windows or glass bottles? Why?