Chapter 4: Supply and Demand

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Discussion section 4

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Outline

These slides will introduce the critical concepts of **supply** and **demand**: *the behavior of firms and individuals as they interact in competitive markets.*

We will see how these two forces interact to determine prices.

Features of a market

1. What is a market?
2. What are some examples of markets?
3. What does it mean for a market to be *competitive*?
4. Are all markets competitive?
5. What makes a market perfectly competitive?

Perfectly competitive markets

In a perfectly competitive market:

1. The market is competitive: There are many buyers are sellers so that no individual has an impact on price
2. All goods are identical

A consequence of 1: All actors are *price-takers*

Demand

- What is the *quantity demanded* of a good?
- What is the *law of demand*?
- What is the difference between a demand schedule and a demand curve?

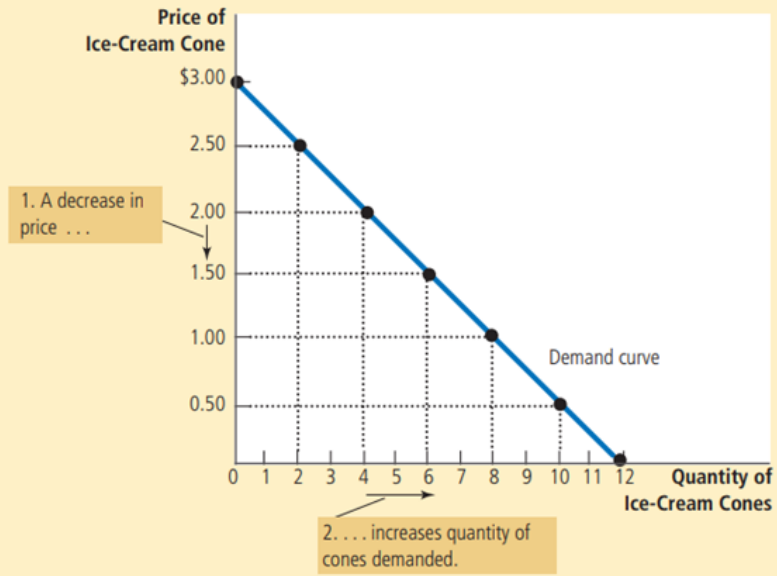
Demand schedule and curve

FIGURE 1

Catherine's Demand Schedule and Demand Curve

The demand schedule is a table that shows the quantity demanded at each price. The demand curve, which graphs the demand schedule, illustrates how the quantity demanded of the good changes as its price varies. Because a lower price increases the quantity demanded, the demand curve slopes downward.

Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	12 cones
0.50	10
1.00	8
1.50	6
2.00	4
2.50	2
3.00	0



- This example shows the demand curve for one individual.
  - The *market demand* is the summation of demand curves across all individuals in a market.

Types of Goods

Normal and Inferior goods:

- **Normal goods**: demand increases when income increases
  - Ex: travel
- **Inferior goods:** demand decreases when income increases
  - Ex: *store brand* cereal

Compliments and Substitutes:

- **Complements**: two goods that go well together
  - Ex: peanut butter and jelly
- **Substitutes:** two goods that fulfill the same purpose or class
  - Ex: coffee and tea

Market demand

Demand curves are not fixed in time; many things might cause a demand curve to change

- Factors which cause movement along the demand curve: a *change in price* of the good
- Factors which shift the demand curve:

T:	**T**astes/preferences
R:	prices of **R**elated goods
I:	**I**ncome of the buyers
B:	number of **B**uyers
E:	**E**xpectations of future prices

Q: If goods A and B are complements, what will happen to demand for good B if the price of good A falls? What if they are substitutes?

Example

A few years ago Maryland passed a gas tax holiday, temporarily lowering the price of gasoline. Some critics said that lowering the tax would make people want to buy more gasoline and might end up actually *increasing* the price.

1. Will the tax decrease cause the demand curve for gasoline to shift?
2. What are some complements and what are some substitutes for gasoline?
3. What are some factors that might cause the demand curve for gasoline to shift?

Does it seem plausible that the tax increase could cause the price of gasoline to go up?

Supply

- *Quantity supplied* is the amount sellers are willing and able to sell
- *The law of supply:* as price increases, so does quantity supplied

Supply curves also are not fixed in time; many things might cause a supply curve to change

- Factors which cause movement along the supply curve: a change in price of the good
- *Factors which shift the supple curve:*

P: **P**rices of inputs to production
E: **E**xpectations about the future
S: **S**ubsidies/taxes
T: **T**echnology changes
S: number of **S**ellers

Equilibrium

Economists are generally interested in the point at which supply equals demand: *equilibrium*

The equilibrium is characterized by two things:

- Equilibrium **price** (*market-clearing*)
- Equilibrium **quantity**

At this point:

$$Q_D = Q_S$$

Equilibrium

The actions of individuals in the market will naturally bring it into equilibrium: the *law of supply and demand*.

- If there is excess supply there is a *surplus*
- If there is excess demand there is a *shortage*

Market for gasoline

Let's return to our question about gasoline, and run through some different scenarios...

What do the supply and demand curves for the market of gasoline look like, and what is the impact of the decrease in the gas tax?

** Does the tax cut cause a shift in demand or supply? **

Market for gasoline

The tax cut caused the supply curve to shift to the right:

for any given price, sellers will supply a larger quantity at a lower price.

Now suppose all cars experience a sudden increase in fuel efficiency: we can drive more miles with the same amount of gasoline

How does this affect supply or demand in our market for gasoline?

Market for gasoline

Increased fuel efficiency shifts our demand curve to the left

at any given price, we buy less gasoline than before, at a lower price.

Now think about the two changes together:

- The gasoline tax is lowered
- Fuel efficiency increases

What is the net effect on the equilibrium quantity and price? Is it unambiguous?

Market for gasoline

The supply curve shifts to the right, and the demand curve shifts to the left:

- The equilibrium price is unambiguously lower
- The equilibrium quantity may increase or decrease; it depends on the magnitude of the two shifts!

Note that this falls right out of our supply and demand side analyses!

- In both cases, the price decreased
- With the tax cut, quantity increased, but with the fuel efficiency increase, quantity decreased

Market for Orioles tickets

In the last few years, the Orioles have gone from one of the worst teams in MLB to one of the best.

1. Draw the supply and demand curves for Orioles tickets.
2. Does the supply curve look like it did in the gasoline market?
3. Will the team's improved record effect supply or demand, and why?
4. What will happen to equilibrium price and quantity?

Market for Orioles tickets

- Supply curve is vertical: why?
- A better team means more fans want to attend more games, shifting the demand curve to the right
- The equilibrium quantity is the same, but the price has increased

Is this a realistic way to think about the market for tickets?

Market for Orioles tickets

Is this a realistic way to think about the ticket market?

- In some ways: we really do see ticket prices increasing, and the number of seats really is fixed
- In reality, not all seats are the same (different markets?) and not all seats get sold (there are fixed costs and frictions)
- Don't worry about any of this for now!