Supply and Demand

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Chapter 4 SS and DD: Lesson Objectives ◁

In this chapter, you will be able to answer the following:

- What factors affect buyers' demand for goods?
- What factors affect sellers' supply of goods?
- How do supply and demand determine the price of a good and the quantity sold?
- How do changes in the factors that affect demand or supply affect the market price and quantity of a good?
- How do markets allocate resources?

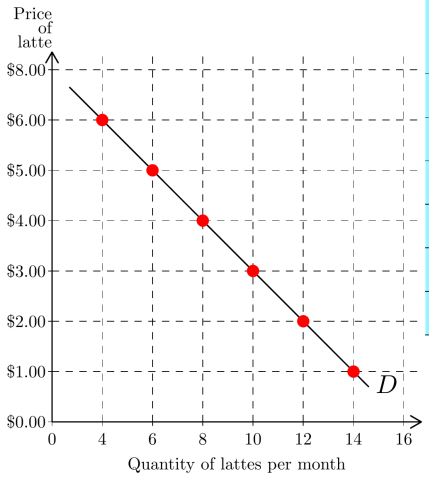
Markets and Competition

- A market is a group of buyers and sellers of a particular product.
- A competitive market is one with many buyers and sellers, each has a negligible effect on price.
- In a perfectly competitive market:
  1. All goods exactly the same
  2. Buyers & sellers so numerous that no one can affect market price – each is a "**price taker**''
- In this chapter, we assume markets are perfectly competitive.

Demand

- The **quantity demanded** of any good is the amount of the good that buyers are willing and able to purchase.
- **Law of demand:** the claim that the quantity demanded of a good falls when the price of the good rises, other things equal.

The Demand Schedule and Demand Curve ◁



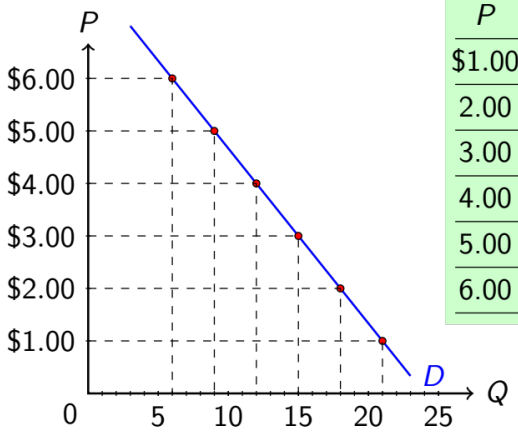
Price of lattes	Quantity of lattes demanded
$1.00	14
$2.00	12
$3.00	10
$4.00	8
$5.00	6
$6.00	4

Market Demand versus Individual Demand ◁

- The quantity demanded in the market is the sum of the quantities demanded by all buyers at each price (horizontal summation).
- Suppose Helen and Ken are the only two buyers in the Latte market. (Q_d = quantity demanded)

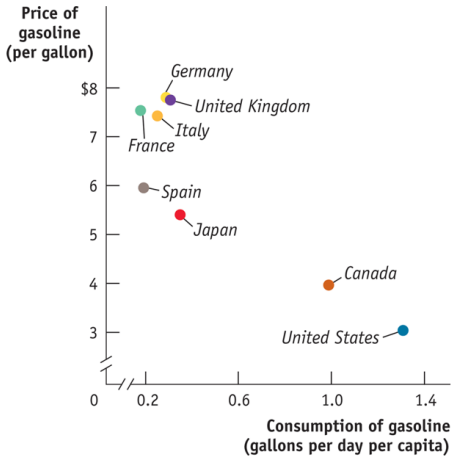
Price	Helen's Q^d	Ken's Q^d		Market Q^d
1.00	14	7	=	
2.00	12	6	=	
3.00	10	5	=	
4.00	8	4	=	
5.00	6	3	=	
6.00	4	2	=	

The Market Demand Curve for Lattes ◁



P	Q^d (Market)
$1.00	21
2.00	18
3.00	15
4.00	12
5.00	9
6.00	6

Example: Market Demand for Gasoline



Demand Curve Shifters

- The demand curve shows how price affects quantity demanded, other things being equal.
- These "other things'' are non-price determinants of demand.
- Changes in them shift the D curve . . .

! distinguish between **Change in quantity demanded** & **Change in demand**

Demand Curve Shifters: Terms

- ***Change in quantity demanded*** refers to mov't along the same demand curve and happens when the price of the good changes, other things constant.
- ***Change in demand*** refers to shift of the entire demand curve and happens when the other things change (here quantity demanded is increasing or decreasing at each price).

Demand Curve Shifters: ◁

Mnemonic: *PoYNTE*

1. # of Buyers
2. Income of consumers (normal vs inferior)
3. Price of other goods: substitutes vs complements
4. Taste
5. Expectations (Consumers' belief about future price and income)

Active Learning: Mov't Along & Shift of D Curve ◁

Draw a demand curve for music downloads. What happens to it in each of the following scenarios? Why?

a. The price of iPods falls

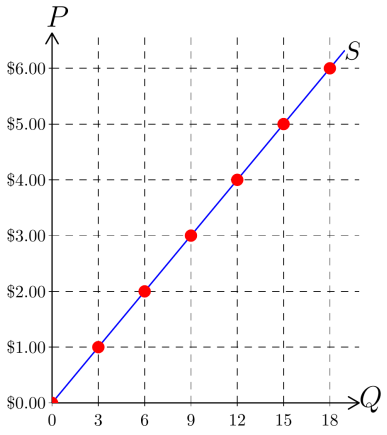
b. The price of music downloads falls

c. The price of CDs falls

Supply

- The **quantity supplied** of any good is the amount that sellers are willing and able to sell.
- **Law of supply:** the claim that the quantity supplied of a good rises when the price of the good rises, other things equal

Starbucks' Supply Schedule & Curve ◁



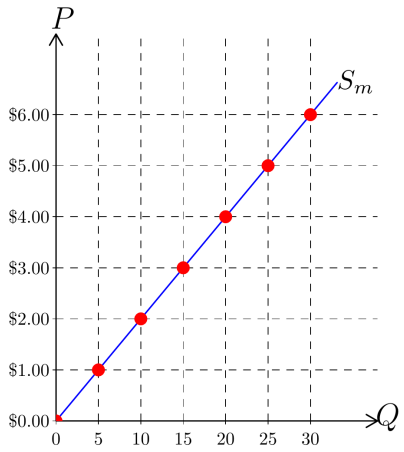
Price of lattes	Quantity of lattes supplied
$0.00	0
$1.00	3
$2.00	6
$3.00	9
$4.00	12
$5.00	15
$6.00	18

From Individual Supply to Market Supply ◁

- The Q_s in the market is the sum of Q_s by all sellers at each price. (Q_s = quantity supplied)
- Suppose Starbucks and Jitters are the only two sellers in this market.

Price	Starbucks		Jitters		Market Q^s
$0.00	0	+	0	=	0
1.00	3	+	2	=	5
2.00	6	+	4	=	10
3.00	9	+	6	=	15
4.00	12	+	8	=	20
5.00	15	+	10	=	25
6.00	18	+	12	=	30

The Market Supply Curve ◁



P	Q^S (Market)
$0.00	0
$1.00	5
$2.00	10
$3.00	15
$4.00	20
$5.00	25
$6.00	30

Supply Curve Shifters

- The supply curve shows how price affects quantity supplied, other things being equal.
- These "other things are non-price determinants of supply.
- Changes in them shift the S curve . . .
- Rightward shift of S curve is an increase in Supply; and Leftward is a decrease

Supply Curve Shifters ◁

! Exercise: Distinguish between *change in quantity supplied* and *change in supply*.

Supply increases (shift right) if:

1. Input prices: wages, prices of raw materials fall
2. Technology improves
3. # of sellers increase
4. Expectation: Expected Future price of the good decreases

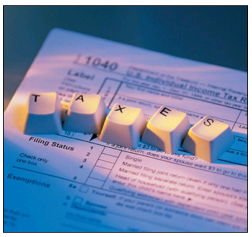
Mnemonics: *NEIT*

Active Learning: SUPPLY ◁

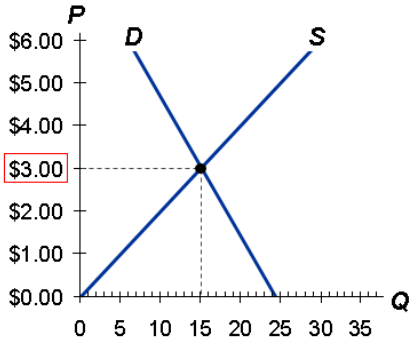
Draw a supply curve for tax return preparation software (such as TurboTax by Quicken). What happens to it in each of the following scenarios?

A. Retailers cut the price of the software.

B. A technological advance allows the software to be produced at lower cost.



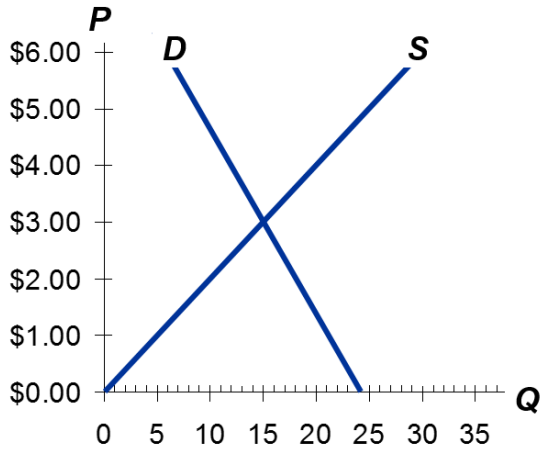
Supply and Demand Together ◁



P	Q^D	Q^S
$0	24	0
1	21	5
2	18	10
3	15	15
4	12	20
5	9	25
6	6	30

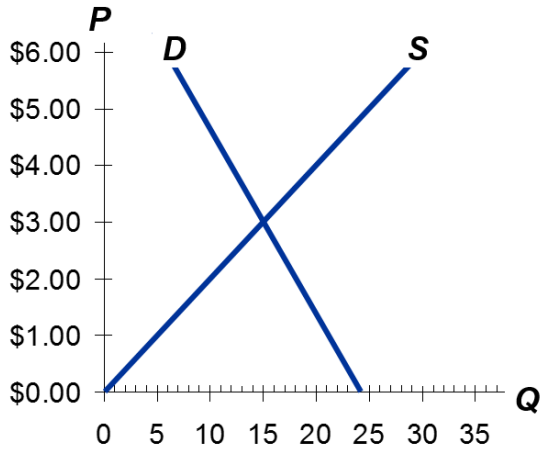
Surplus (a.k.a. excess supply)

When quantity supplied is greater than quantity demanded



Shortage (a.k.a. excess demand)

when quantity demanded is greater than quantity supplied



3 Steps to Analyzing Changes in Eq'm ◁

To determine the effects of any event,

1. Decide whether event shifts ***S*** curve, ***D*** curve, or both.
2. Decide in which direction curve shifts.
3. Use supply-demand diagram to see how the shift changes eq'm ***P*** and ***Q***.

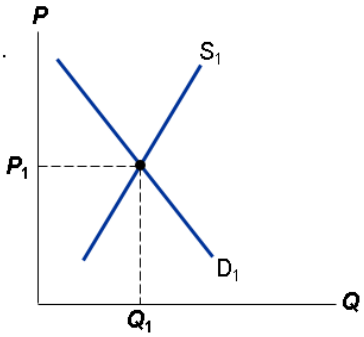
Example 1: Shift in Demand ◁

EVENT TO BE ANALYZED:
Increase in price of gas.

STEP 1:

STEP 2:

STEP 3:



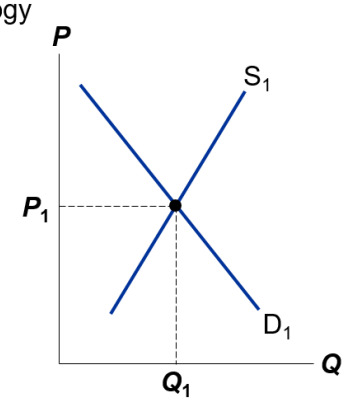
Example 2: A Shift in Supply ◁

EVENT: New technology reduces cost of producing hybrid cars.

STEP 1:

STEP 2:

STEP 3:



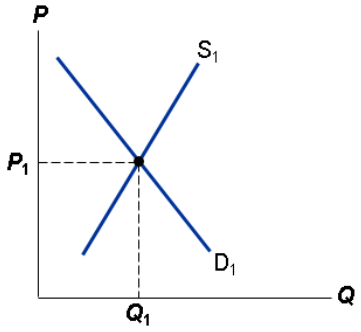
EXAMPLE 3: A Shift in Both Supply and Demand ◁

EVENTS:
price of gas rises AND new technology reduces production costs

STEP 1:

STEP 2:

STEP 3:



Effects of Supply and Demand Shifts ◁

	$\bar{S}$	$S\uparrow$	$S\downarrow$
$\bar{D}$			
$D\uparrow$			
$D\downarrow$			

ACTIVE LEARNING: MARKET ANALYSIS ◁

Use the three-step method to analyze the effects of each event on the equilibrium price and quantity of music downloads.

- ***Event A***: A fall in the price of CDs
- ***Event B***: Sellers of music downloads negotiate a reduction in the royalties they must pay for each song they sell.
- ***Event C***: Events A and B both occur.

CONCLUSION: How Prices Allocate Resources

- One of the Ten Principles from Chapter 1: Markets are usually a good way

to organize economic activity.

- In market economies, prices adjust to balance supply and demand. These equilibrium prices are the signals that guide economic decisions and thereby allocate scarce resources.