

HW#4 From Problem and Applications of Mankiw book, Chapter 4 The Market Forces of Supply and Demand

#1 Answer only part (b) and (e). Follow the instruction of the question and, in addition, and describe the market mechanism that causes the change in the market equilibrium.

3. Consider the market for minivans. For each of the events listed here, identify which of the determinants of demand or supply are affected. Also indicate whether demand or supply increases or decreases. Then draw a diagram to show the effect on the price and quantity of minivans.

~~a. People decide to have more children.~~

b. A strike by steelworkers raises steel prices.

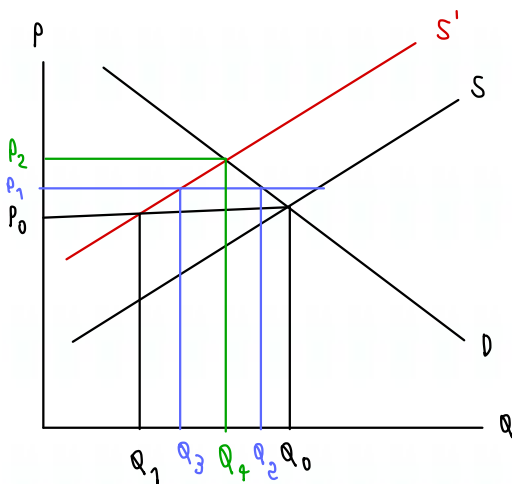
~~c. Engineers develop new automated machinery for the production of minivans.~~

~~d. The price of sports utility vehicles rises.~~

e. A stock market crash lowers people's wealth.

b. A strike by steelworkers raises steel prices.

the price of steel increases, the company can produce less product so Supply decreases from S to S'



At first, the equilibrium is at (Q_0, P_0) .

When there is a strike by steelworkers, S decreases to S' . At price P_0 , Q_D decreases to Q_1 so there is an excess demand.

(Q_D is at Q_0 and Q_S is at Q_1)

$Q_D > Q_S = \text{Excess demand}$

So the price increases to P_1

At price P_1 , $Q_D = Q_2$ } still excess demand
 $Q_S = Q_3$ } but smaller

So the price increases to P_2

At price P_2 , $Q_D = Q_4$ } $Q_D - Q_S = 0$
 $Q_S = Q_4$ } Excess demand = 0

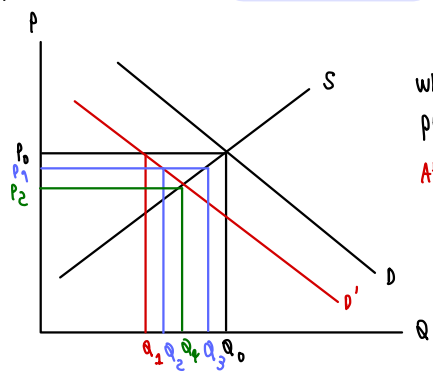
so the new equilibrium is at (Q_4, P_2)

Q decreases from Q_0 to Q_4

P increases from P_0 to P_2

e. A stock market crash lower people's wealth

• people have less money so D decreases to D'



At first, the equilibrium is at (Q_0, P_0) .
 when there is a stock market crash lower people's wealth, Demand decreases from D to D'

At P_0 , Q_D decreases from Q_0 to Q_1
 Q_S is Q_0
 so excess supply because $Q_0 - Q_1 > 0$
 → the price decreases to P_1

At P_1 , Q_D is at Q_2
 Q_S is at Q_3
 $Q_3 - Q_2 > 0$
 = still excess supply
 but smaller

So the price decreases to P_2

At P_2 , Q_D is at Q_4
 Q_S is at Q_4
 $Q_4 - Q_4 = 0$
 Excess supply = 0

the new equilibrium is at (Q_4, P_2)
 Q decreases from Q_0 to Q_4
 P decreases from P_0 to P_2

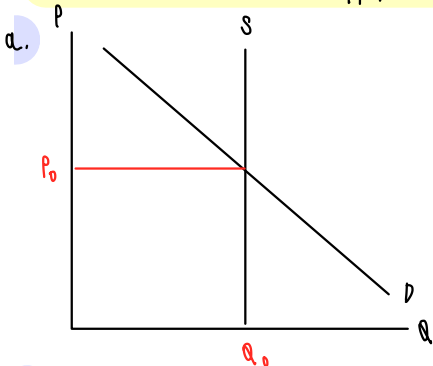
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11. Suppose that the price of basketball tickets at your college is determined by market forces. Currently, the demand and supply schedules are as follows:

Price	Quantity Demanded	Quantity Supplied
\$4	10,000 tickets	$+ 4k = 11k$ 8,000 tickets
8	8,000	$+ 3k = 11k$ 8,000
12	6,000	$+ 2k = 8k$ 8,000
16	4,000	$+ 1k = 5k$ 8,000
20	2,000	8,000

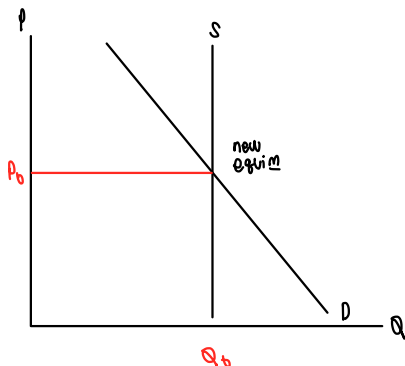
- Draw the demand and supply curves. What is unusual about this supply curve? Why might this be true?
- What are the equilibrium price and quantity of tickets?
- Your college plans to increase total enrollment next year by 5,000 students. The additional students will have the following demand schedule:

draw the demand & supply curve.



b. the equilibrium price is at 8 dollars
the equilibrium quantity is at 8000 tickets

c. increase the total enrollment by 5,000 students



the equilibrium price is 11 dollars
the equilibrium quantity is still the same.

Price	Quantity Demanded
\$4	4,000 tickets
8	3,000
12	2,000
16	1,000
20	0

Now add the old demand schedule and the demand schedule for the new students to calculate the new demand schedule for the entire college. What will be the new equilibrium price and quantity?