

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

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.

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

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	8,000 tickets
8	8,000	8,000
12	6,000	8,000
16	4,000	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:

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?

#2

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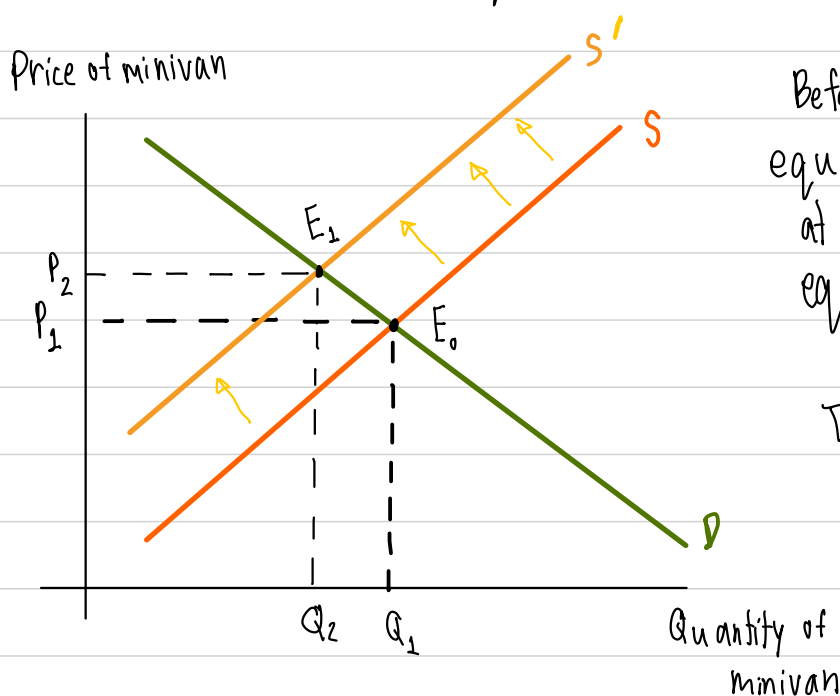
~~c. Engineers develop new automated machinery for the production of minivans.~~

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#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.

b. A strike by steelworkers raise steel prices



Before steel prices raise, the equilibrium is at  $(Q_1, P_1)$  at point  $E_0$  where we have equilibrium condition  $Q_D = Q_S$

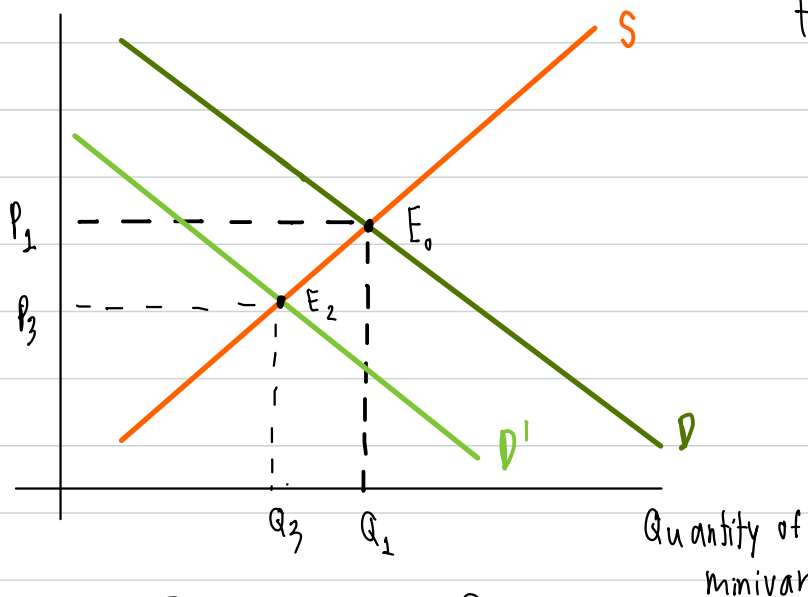
The raise of steel prices lead to decrease in supply. Shift the curve from  $S$  to  $S'$

$\therefore$  Excess D =  $Q_D - Q_S > 0$  This lead to market price increases (by assumption #5 Excess Demand make price higher)

The minivan price will keep increasing until it is at  $P_2$  where Excess D = 0 because  $Q_D = Q_S$ . Therefore the new equilibrium point is at  $E_1 = (Q_2, P_2)$

e. A stock market crash lower people's wealth

Price of minivan



Before stock market crash, the equilibrium is at  $(Q_1, P_1)$  at point  $E_0$  where we have equilibrium condition  $Q_D = Q_S$

The lower income lead to decrease in demand. Shift the curve from  $D$  to  $D'$

$\therefore$  Excess  $S = Q_S - Q_D > 0$  This lead to market price decreases (by assumption  $\neq S$  Excess  $S$  make price lower)

The minivan price will keep decreasing until it is at  $P_3$  where Excess  $S = 0$  because  $Q_D = Q_S$ . Therefore the new equilibrium point is at  $E_2 = (Q_3, P_3)$

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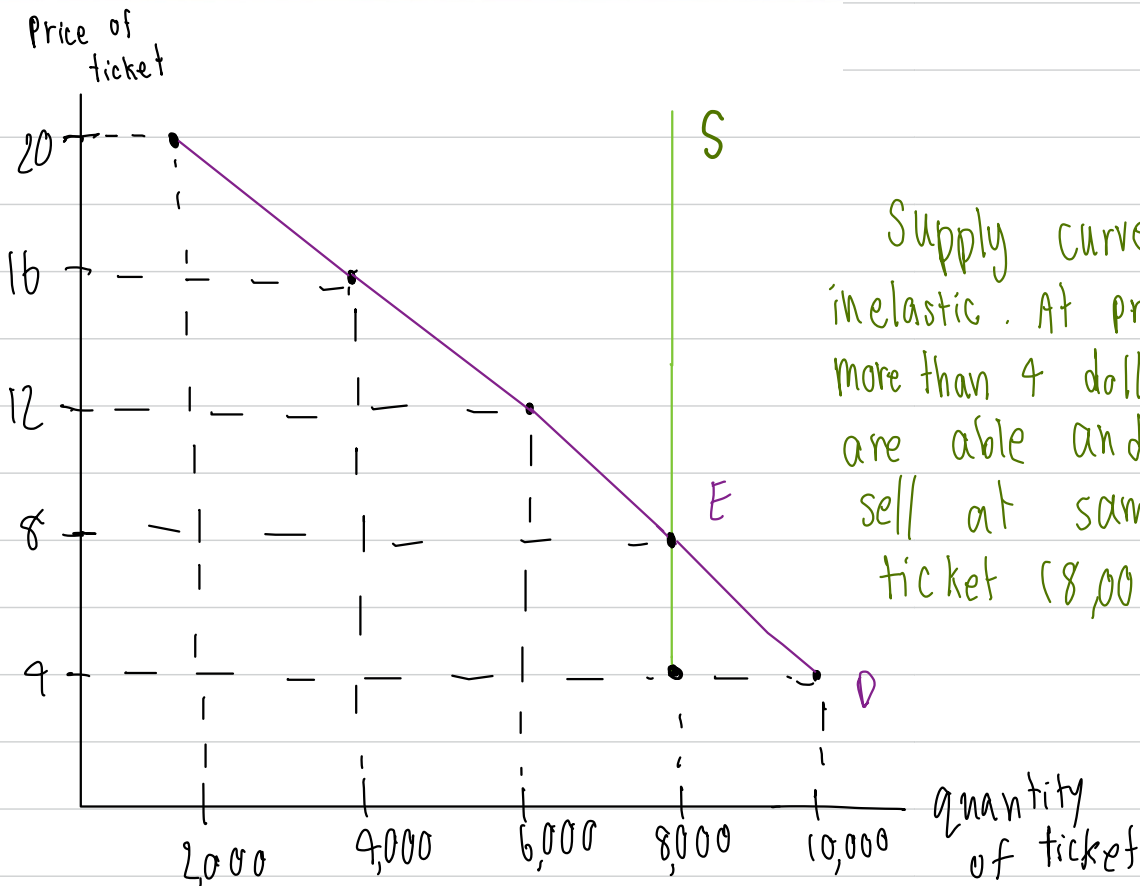
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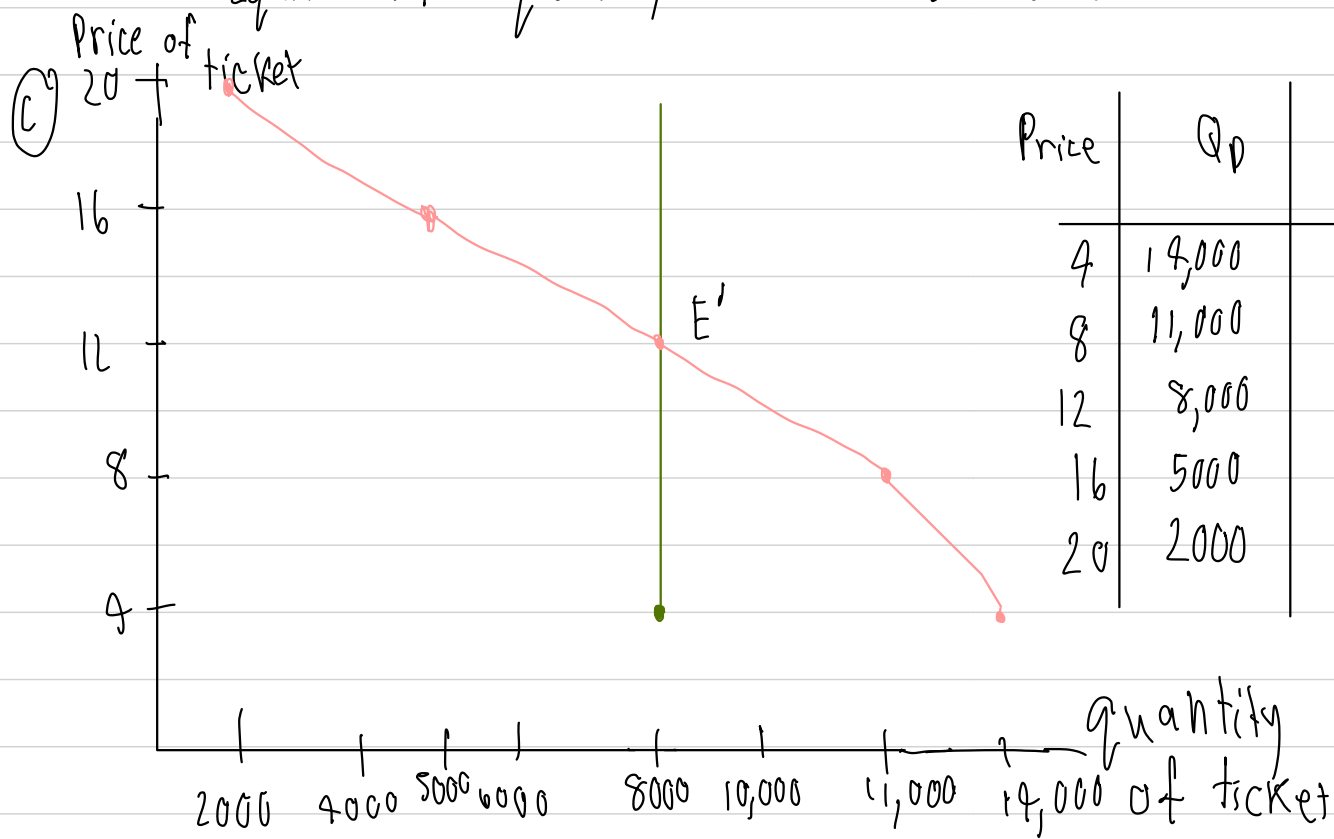
#2

Q1



Supply curve is perfectly inelastic. At price equal or more than 4 dollar seller are able and willing to sell at same quantity of ticket (8,000 ticket)

(b) Equilibrium is the point E when at price \$8 the buyer and sellers are willing and able to buy and sell ticket at the same quantity of ticket (8000 ticket)  
 $\therefore$  Equilibrium price is \$8  
 Equilibrium quantity of ticket is 8000 ticket.



$\therefore$  New Equilibrium is the point E' when at price \$12 the buyer and seller are willing and able to buy and sell ticket at the same quantity of ticket (8000) ticket

$\therefore$  Equilibrium price is 12\$

Equilibrium quantity of ticket is 8000 ticket.