Ch 3

Market: a set of arrangements by which buyers and sellers interact in order to exchange goods and services

Demand: The Quantity of a good buyers wish to purchase at <u>each</u> price.

Supply: . . .

slide 3

Demand reflects the Law of Demand:

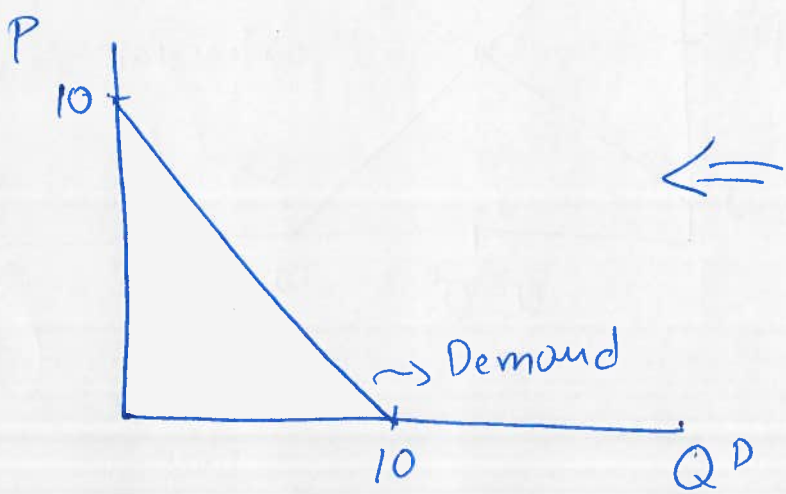
There is a negative relationship between P and Q^D

Let's put it down with Algebra

$$P = 10 - Q^D$$ straigh line

Demand — Quantity Demanded

Plot



P	Q^D
0	10
1	9
2	8
3	7
4	6
5	5
6	4
7	3
8	2
9	1
10	0

Supply reflects the law of supply

There is a positive relationship between P and Q^S

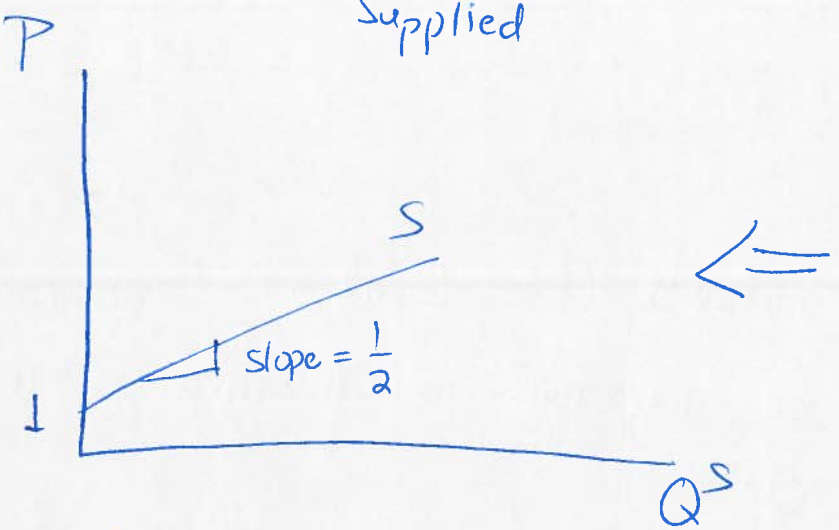
$$P = 1 + \frac{1}{2} Q^S \Rightarrow \text{Supply}$$

Q^S: Quantity Supplied

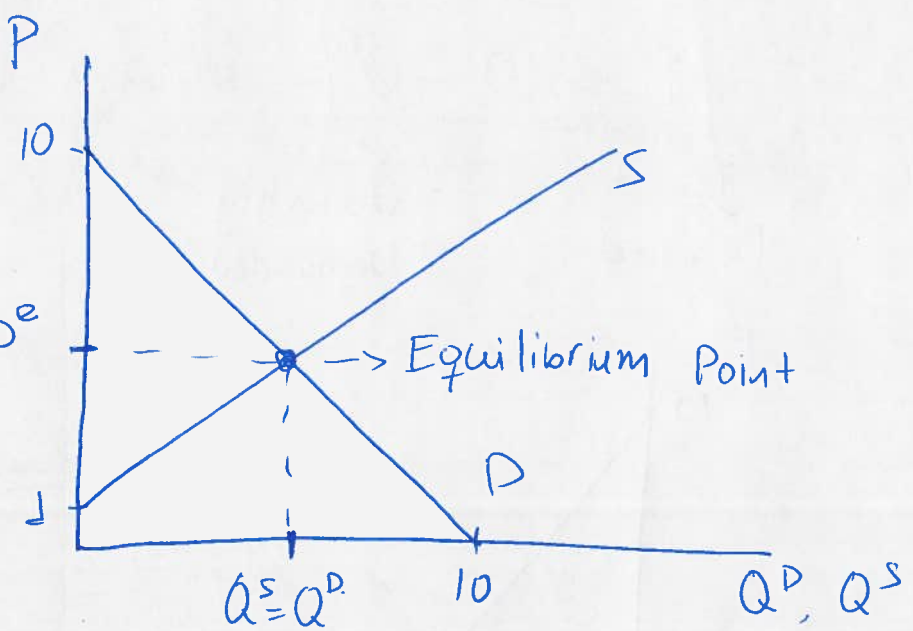
First, get the schedule

P	Q^S
0	0
1	0
2	2
3	4
4	6
5	8
6	10
7	12
8	14
9	16
10	18

Plot



Put them together



equilibrium price ⇓ makes $Q^D = Q^S$

Let's compute the equilibrium point

$$Q^D = Q^S = Q$$

$$10 - Q = 1 + \frac{1}{2}Q$$

$$20 - 2Q = 2 + Q$$

$$18 = 3Q$$

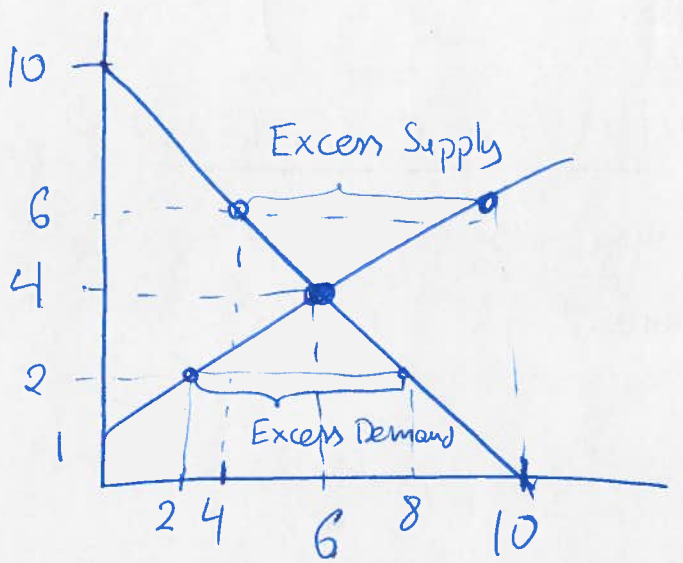
$$Q = \frac{18}{3} = \frac{3 \cdot 6}{3} = 6 \text{ units}$$

Price should be the same by definition

$$P = 10 - 6 = 4 \text{ \$/unit}$$

$$P = 1 + \frac{1}{2}6 = 4 \text{ \$/unit}$$

Equilibrium Point $P = 4$ \$/unit , $Q = 6$ units



Excess Supply:

$Q^S - Q^S = 10 - 4 = 6$ units

Excess Demand:

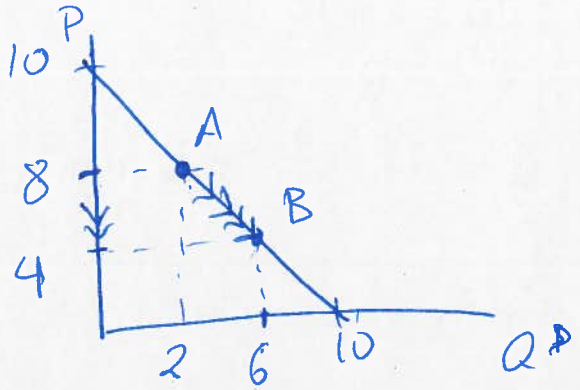
$Q^D - Q^S = 8 - 2 = 6$ units

if $P = 6$ \$/unit $Q^D = 4$ units and $Q^S = 10$

if $P = 2$ \$/unit $Q^D = 8$ units and $Q^S = 2$

When Price changes

only Q^D changes and move up or down on the same demand curve

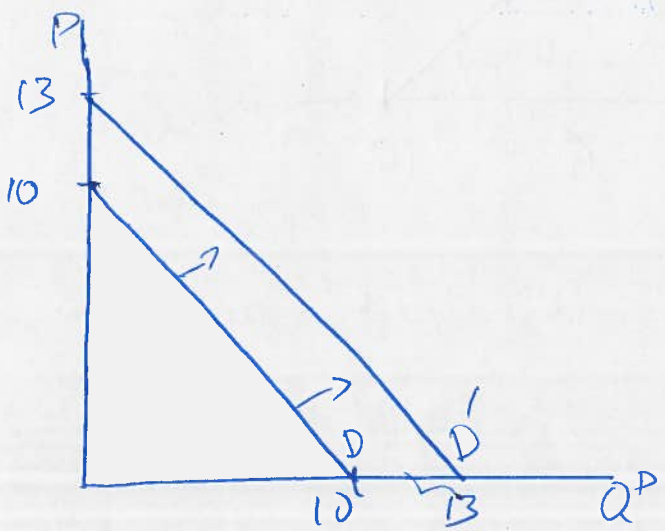


When { Prices of Related goods
Consumer Incomes
Tastes and Networks
Expectation } then demand curve moves in or out

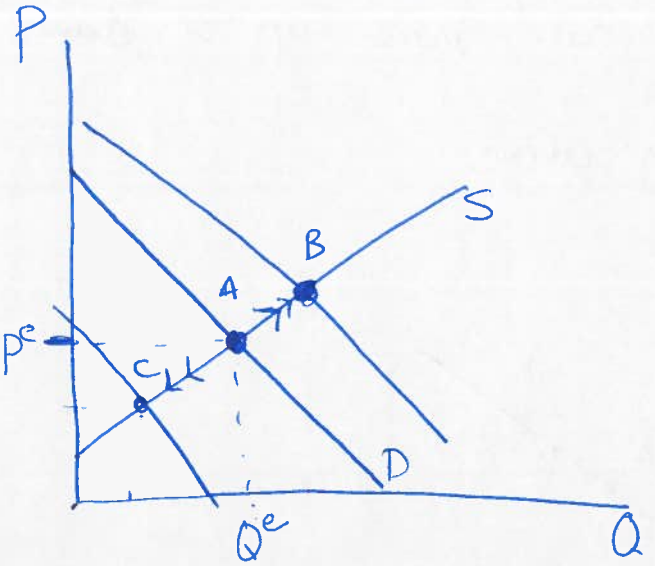
Explain slides 14, 15, 16, 17

Example Old demand is $P = 10 - Q^D$

New demand is $P = 13 - Q^D$



When Demand changes I have a new equilibri

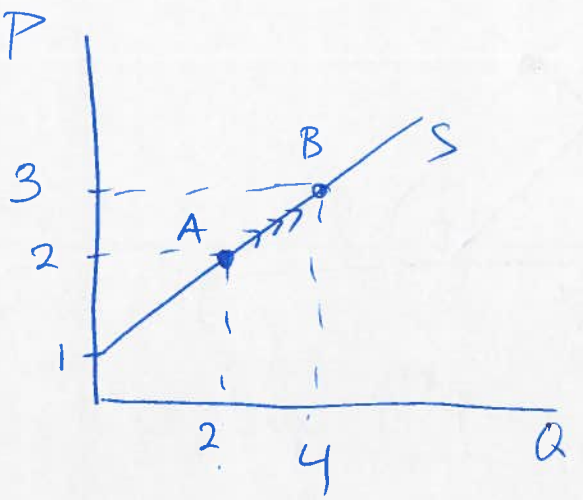


If Demand ↑ then P^e ↑ and Q^e ↑
(Supply stays the same)

If Demand ↓ then P^e ↓ and Q^e ↓

When Price changes

Only Q^S changes and move up or down on the same supply curve

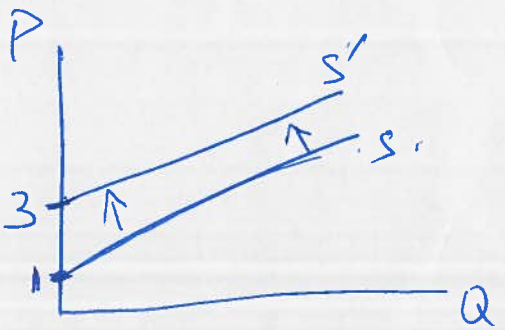


when { technology, input cost, number of suppliers } then Supply Curve Moves in or Out!

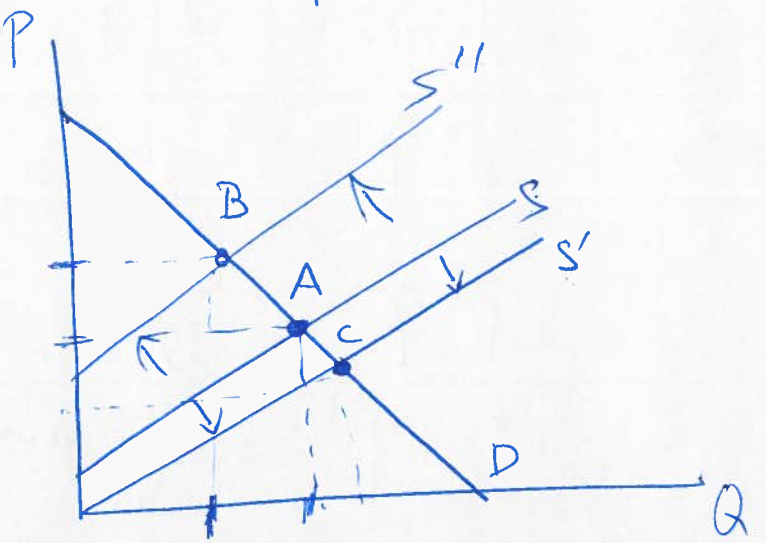
Explain slides 20

Example old supply $P = 1 + \frac{1}{2} Q^S$

new supply $P = 3 + \frac{1}{2} Q^S$



When supply changes (and demand stays the same) I have a new equilibrium



If Supply ↓ (B) P^e ↑ and Q^e ↓

If Supply ↑ (C) P^e ↓ and Q^e ↑

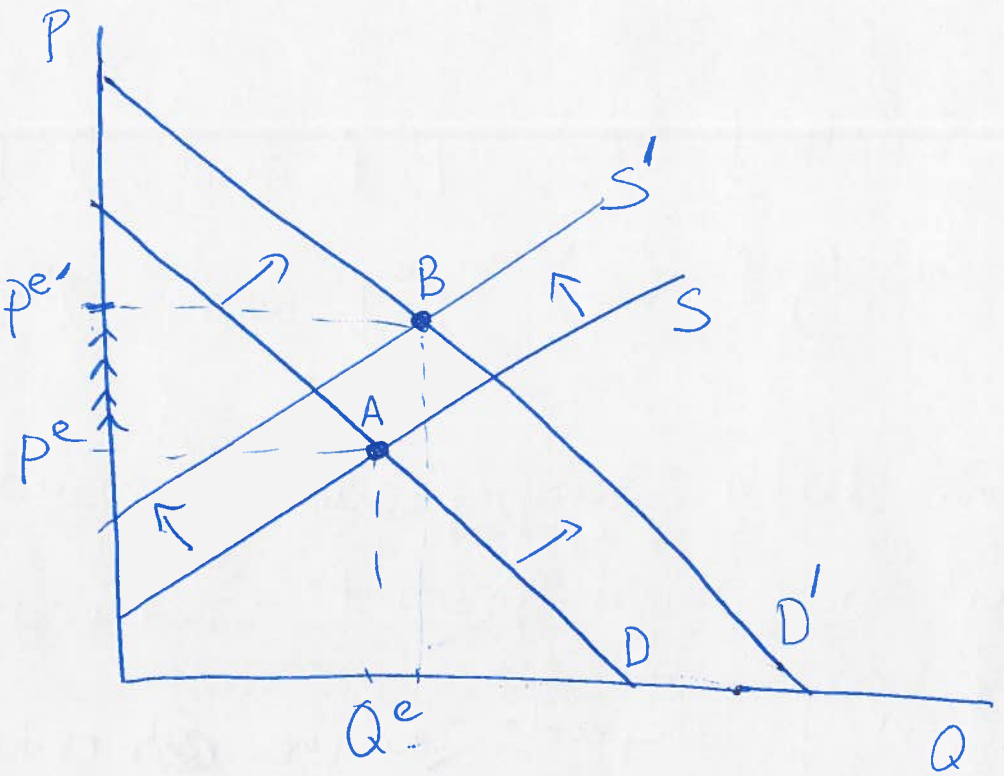
When both Supply and Demand change then we cannot predict exactly what will happen it depends on the relative change of supply and demand

Example Demand ↑ and Supply ↓

Demand ↑ => P^e ↑ , Q^e ↑

Supply ↓ => P^e ↑ , Q^e ↓

Expect => P^e ↑ (for sure) , Q^e ? (ambiguous ↑, ↓ or stay same)

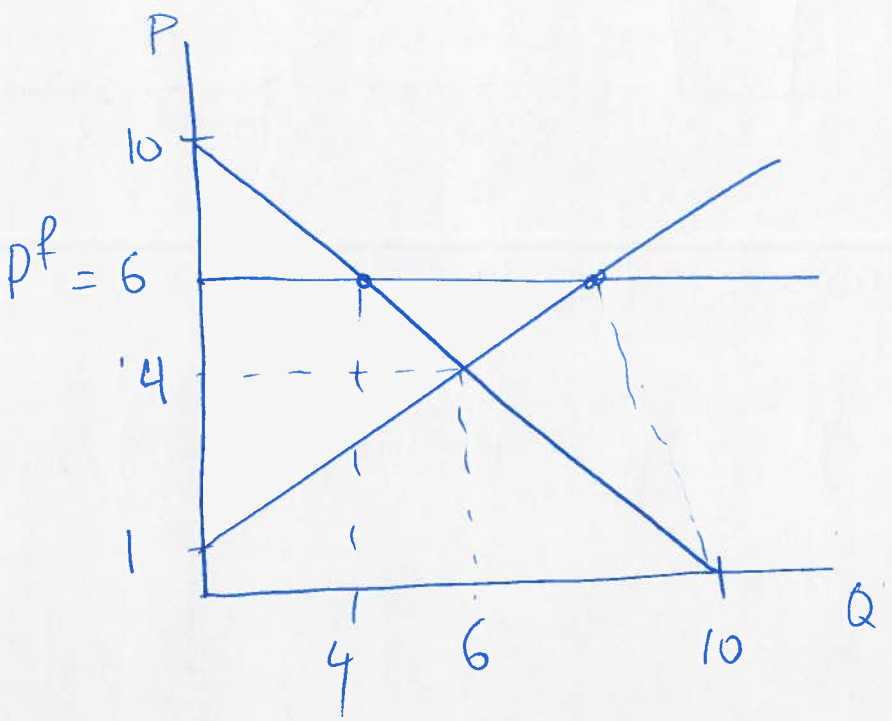


Market Regulations: Ceiling Price
Floor Price
Quotas

Price Floor: Regulated Price above the equilibrium price

Assume $P = 10 - Q^D$

$P = 1 + \frac{1}{2}Q^S$

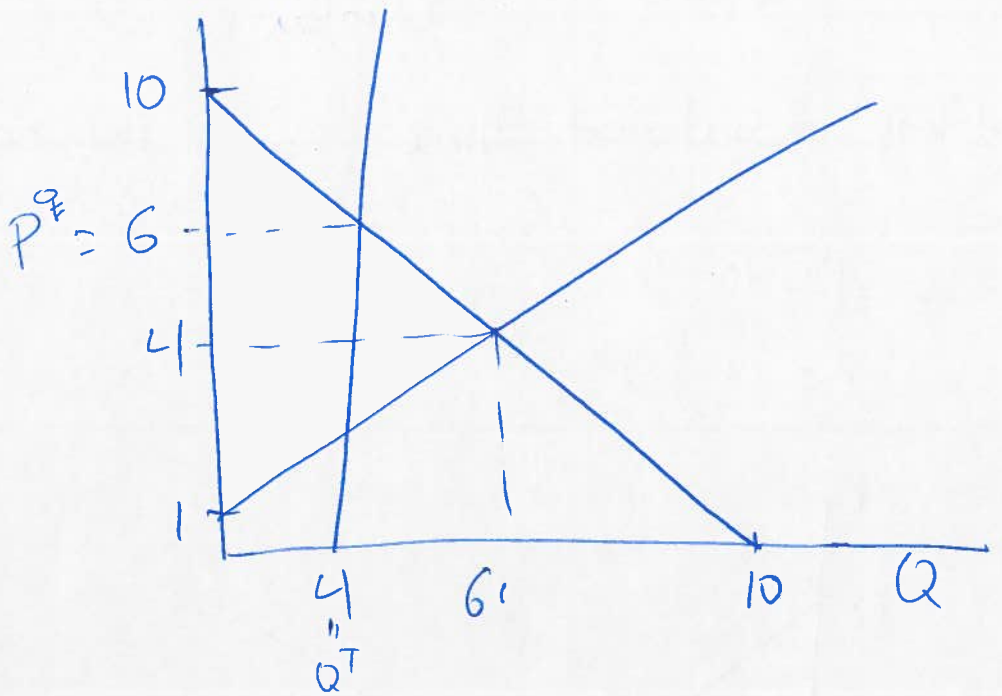


Government applies a price floor $P = \$6/unit$

$Q^D = 4$, $Q^S = 10$, $Q^T = 4$

Excess Supply $= Q^S - Q^D = 10 - 4 = 6$ units

Quotas



Assume Quota = 4 units

People willing to pay $P = 10 - 4 = 6$ \$/unit

Aggregate Demand

Horizontal Summation of individual demands