

Chapter 3

Mar 18, 20
Wednesday

* Market : (Suppliers) البائعون (Demanders) المشترون

⇒ any institution ~~that~~ or mechanism that brings together demanders (buyers : المشترون) and sellers (suppliers : البائعون)

مثل السوبرماركت أو Ali express أو amazon

⇒ eg : Supermarket , Amazon .

* Demand shows various amounts of product that are willing and able to buy at each specific price in a given time .

* Price increases $\Rightarrow$ Quantity demanded decreases
 So: There is an {Inverse relation} between price and quantity.

$\rightarrow$ Law of Demand.

* Why there is an inverse relationship between price and quantity demanded?

1- Price is an obstacle (السعر عائق)

* كلما ارتفعت الأسعار، انخفضت القدرة على الشراء (تقلت المصلحة).

2- Diminishing of marginal utility; the second unit of Pizza gives you less utility than previous one,

كلما زاد استهلاكنا للسلع، المصلحة الأخيرة يعطي أقل منفعة (زى مثال سنووية التلافيل).

The consumer will buy the second if its price less than the price of the first one.

$Q \uparrow$, $MU \downarrow$, you should pay less price

$MU \equiv$ Marginal Utility.

علاقة عكسية بين P و Q .

Dim. point

3- Income and substitution effect :-

Real income $\uparrow$ $\Leftarrow$ (when $P \downarrow$)

buy more $\Rightarrow Q \uparrow$

Purchasing power of money $\uparrow$

Real income
 القوة الشرائية
 القوة الشرائية المعيارية

⇒ when price decrease, real income increase, so you can buy more, ∴ quantity demanded also increases.

سج النقطة 3

4- (x, y) : Substitutes (بائل) ⇒ eg Cola & Pepsi
for example : chicken : $P \uparrow \Rightarrow Q_d \downarrow$
⇒ (x, y) are substitutes and:
 $P_x \downarrow \Rightarrow D_y \downarrow \Rightarrow Q_{d(x)} \uparrow$

eg: x, y ⇒ x: KFC
y: Popyes

if $P_x \downarrow$
⇒ $D_y \downarrow \Rightarrow Q_{d(x)} \uparrow$

السلعتين (x, y)
يتأثروا ببعض
الآخر

بائل (مثل كثير يفرقوا

عن بعض) في تنافس كباي

* Demand curve :-

● Individual demand curve: quantity demanded by a single buyer at each price level.

الكمية المطلوبة من شخص @ سعر محدد

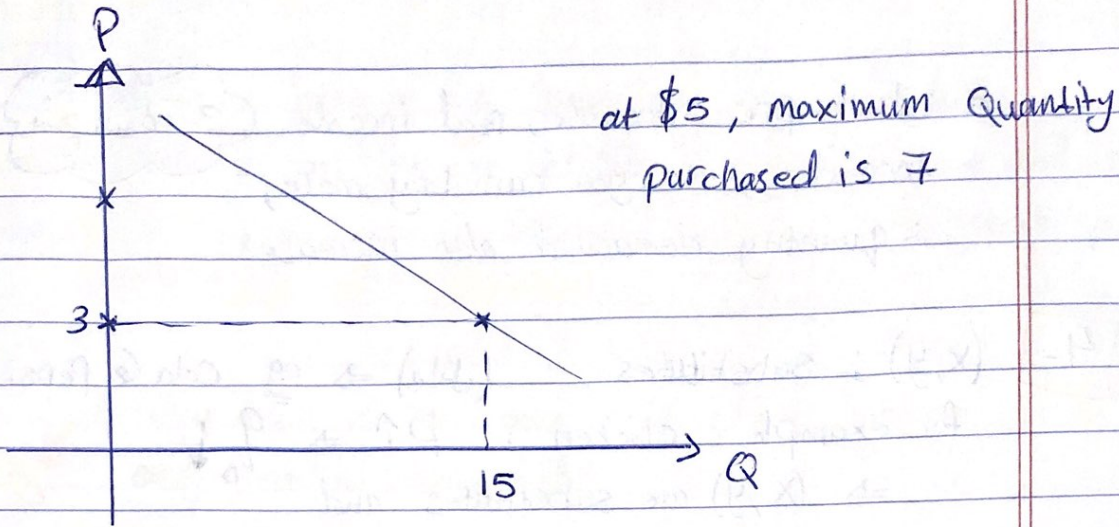
● Market demand curve:

Price	A ($Q_d(A)$)	B ($Q_d(B)$)	C ($Q_d(C)$)	Market Demand
\$5	7	4	6	17
4	9	7	8	24
3	15	10	12	37
2	21	15	16	52
1	28	20	18	

Price : y-axis
Quantity : x-axis

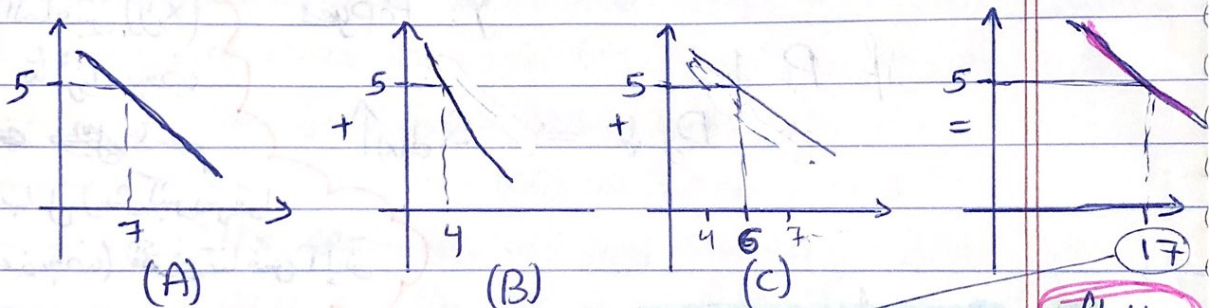
⇒ Market demand curve

↑ Demand curve (Slope is $\ominus$)
(individual A)



* Market demand curve $\Rightarrow$ flatter (لا توجبج)

↓ (at price 5)



(7 + 4 + 6) من آخر column بالجدول

(يجي فيج 0)

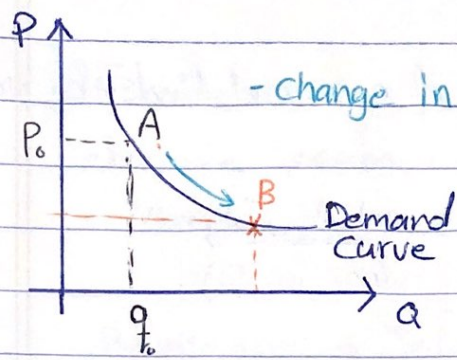
Horizontal (منى عايل كس) (لا توارتم بعد كتر صايل) $\leftarrow$ ق = $\leftarrow$ ق =

Curve A + Curve B + Curve C $\Rightarrow$ Market demand curve.

$\Rightarrow$ Market

- Demand curve : horizontal summation of individual curves

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Monday



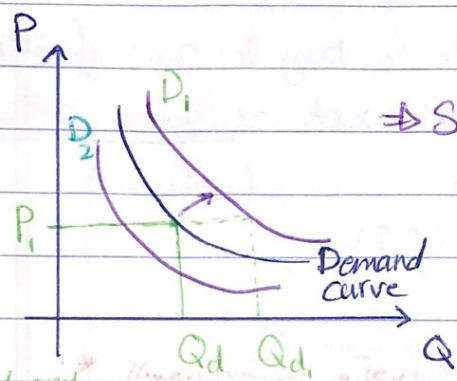
- change in Q_d (not in D).

due to change in prices.

$\Rightarrow$ Change in Q_d VS.

Change in Demand:-

Q_d : move from point to another on demand curve, this happens when price of product change.



$\Rightarrow$ Shift in Demand (change in D):-
shift in the entire demand curve

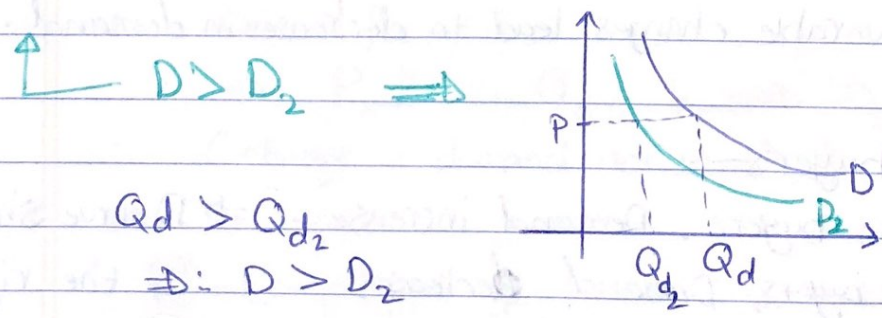
$\Rightarrow$ At any price, Q_{d1} will be larger than Q_d .

at any $P \Rightarrow Q \uparrow$

← هائی لہرہ عشان قیمت میں آگے D و D_1 (منا یسر Shift)
مقارنت Q_d ب Q_{d1} عند سحر معین (مساوی الجہتین).

* Shift to right $\Rightarrow \therefore D \uparrow$, at each price $\Rightarrow$ more units.

* Shift to left $\Rightarrow \therefore D \downarrow$, the Q_d at each price is lower



$Q_d > Q_{d2}$
 $\Rightarrow \therefore D > D_2$

Example:- Toyota raises the price of cars and finds the volume of business decline.

السعر لنفس السلعة قبل و الآن
↓
change in Qd (not in D).

نفس السلعة.

* بأي مكان : إذا السعر تغير إذن Change in Qd.

Example 2:- Consumer is able to buy 10 cans of coke rather than 5 last week at same price.

⇒ Change in Demand. (السعر تغير)
(Shift to right) → (D↑)

* السعر ثابت وتغيرت الكمية إذن change in D.

* Determinants of demand (shifters):-

(كل شيء محتمل غير السعر للسلعة نفسها)

شئ ما يخلي ال Demand
يصير Shift

1- Tastes, preferences :- (الأذواق).

- favorable changes lead to increase in demand.
- Unfavorable changes lead to decrease in demand.

2- # of buyers.

- more buyers, Demand increases ⇒ D curve shift to the right.
- less buyers, Demand decreases ⇒ D curve shift to the left.

3- Income :-

- income increases, demand increases, shift to right.
- income increases, demand decreases, shift to left.

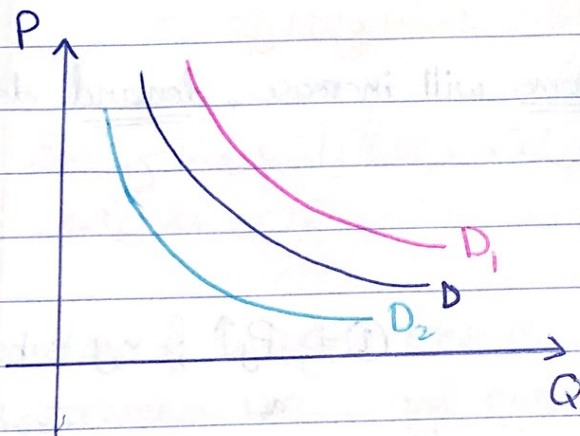
Normal goods

By the way $\Rightarrow$ Inferior goods (سلع رديئة) :

$$I \uparrow \Rightarrow D \downarrow$$

$$I \downarrow \Rightarrow D \uparrow$$

إذا كان معاك
هناك إذن السلعة رديئة
(علاقة عكسية).



$\left\{ \begin{array}{l} D_1: \text{Income, normal} \\ D_2: \text{less buyers} \end{array} \right\}$

Shifters. مثال على ال

4- Prices of related goods. "تغير أسعار التي لها علاقة"

(a) Substitute goods : السلع البديلة

eg: (KFC, POP), (Cola, Sprite).

x, y substitutes. if price for x $\uparrow$, then,

Demand for y $\uparrow$

$$\Rightarrow P_x \uparrow \Rightarrow Q_{d(x)} \downarrow \Rightarrow D_y \uparrow$$

(change in demand not in Q_d).

(b) - Complement goods "سلع مكملة": those are used together like printer and ink, personal computer and software etc.

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Wednesday

eg $\Rightarrow x, y$ are complements. (متاد للطاعة والجبر).

if $P_x \uparrow \Rightarrow Q_d(x) \downarrow \Rightarrow D_y \downarrow$

$\Rightarrow$ inverse relation

5- Consumer expectation about prices and income

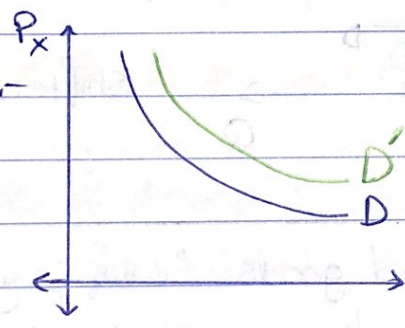
- expected prices will increase, demand increases

← لانو "متوقع" يرتفع P_x الناس بديما تلتحق تشتري " $D \uparrow$ " قبل ارتفاع الأسعار.

- expected that income will increase, demand decreases

← لانو ربح أجنبي يدخل الحاي ، كياتي مصدقة ع دخل لشهر الجاي لانو ج يزيو.

Question:-



① $\Rightarrow P_y \uparrow$; x, y substitutes

علاقة طردية.

$\Rightarrow D_x \uparrow$

$\Rightarrow$ shift to right

② Income $\uparrow$, $D_x \downarrow \Rightarrow$ shift to left. X

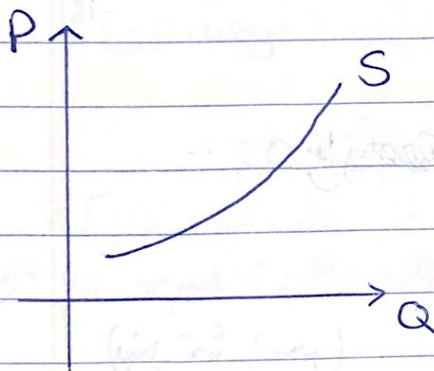
بزيطش نجاوب بكون مانخوف نوع السلعة (ردئية ولا عادية).

$\Rightarrow$ if : normal : $D_x \uparrow \Rightarrow$ right

if : inferior : $D_x \downarrow \Rightarrow$ left.

* Supply Curve :-

- Supply shows amounts of a product that producer is willing and able to produce and sell at each specific price during specific time.



الكميات التي يرغب المنتج إنتاجها وبيعها عند أسعار محددة وفي أوقات محددة.

slope = (+) "متزايد"
عكس ال Demand curve

لما يزيد السعر، كمية الإنتاج تزداد، وعشان المنتج يربح أكثر

⇒ Law of Supply :- there is a direct "positive" relation between prices and quantities supplied.

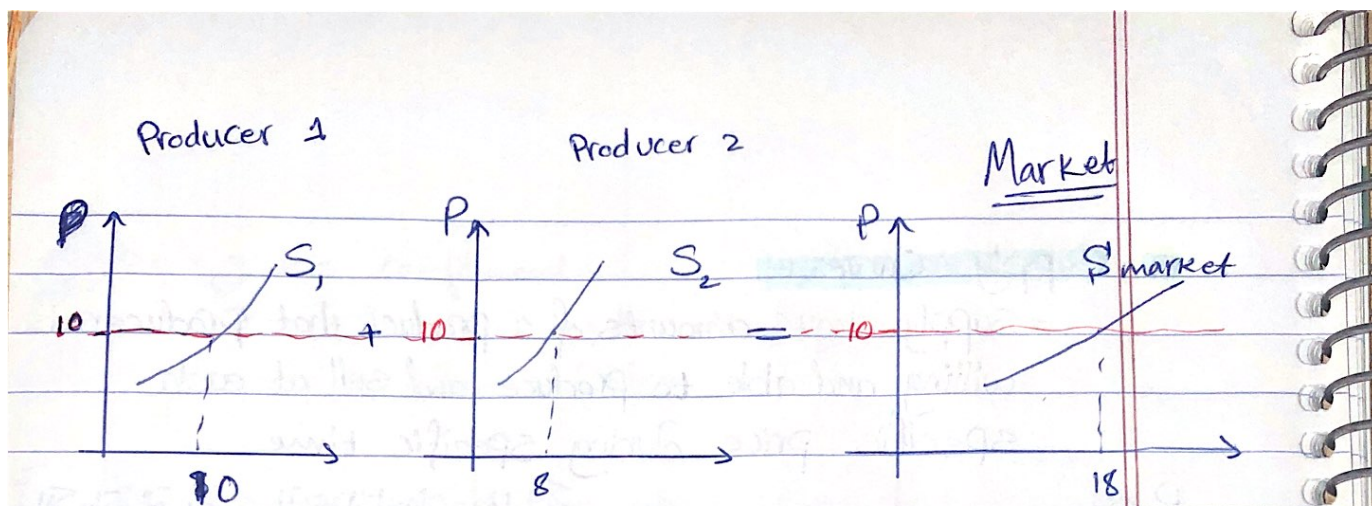
other things equal : $P \uparrow \Rightarrow Q_s \uparrow$
 $P \downarrow \Rightarrow Q_s \downarrow$

أنا المنتج مش المستهلك

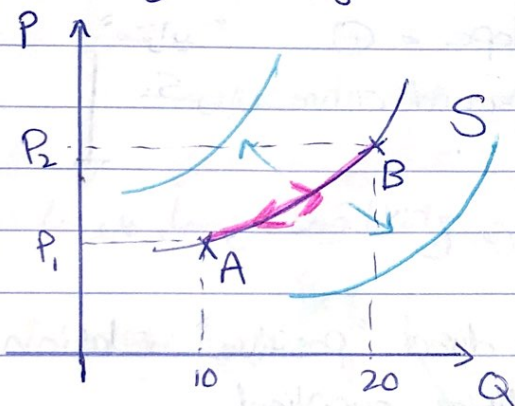
⇒ $P \uparrow \Rightarrow \text{Revenue} \uparrow \rightarrow \text{supply} \leftarrow$
⇒ $\text{Profit} \uparrow \Rightarrow \text{produce more} \uparrow$
more production

- Market Supply :- The horizontal summation of the quantities supplied by all producer of each price

Mar 31, 2020
Monday



* Change in Q_s VS. Change in Supply :-



$A \leftrightarrow B$: Change in Q_s
(تغير في الكمية المعروضة)

⇒ Change in Q_s : The movement from 1 point to another point on a fixed Supply curve which is caused by a change in the price of the same product.

⇒ Change in Supply: Shift to the right/left. → $S \downarrow$

↪ زيادة ↪ $S \uparrow$ ↪ determinants ↪

↪ Change in the entire supply curve, by changing in one or more of the determinants :-

if $S \uparrow \Rightarrow$ shift S to right.

if $S \downarrow \Rightarrow$ shift S to left.

Determinants of Supply →

1- Resource prices : مثل المثال (أجور عمال) wages

أو: إذا زاد سعر الكهرباء $\Rightarrow$ بآثر

$\Downarrow$
* Resource prices $\uparrow$, cost $\uparrow$, Profit $\downarrow$, Supply $\downarrow$

* Ex①: wage $\uparrow$, cost $\uparrow$, Profit $\downarrow$, Supply $\downarrow$.

* ال wage بآثر $\Rightarrow$ ال Supply من $\downarrow$ ال Demand "إذا أصبحت بالمتناهي"

* Ex②: An inc. in the price of cheese used in pizza,
cost $\uparrow$, supply $\downarrow$

2- Technology : Technological improvement means more efficient production, cost $\downarrow$, supply $\uparrow$, Shift supply curve to right.

3- Taxes and subsidies $\rightarrow$ "الدعم الحكومي"

- Business tax is treated as cost, $T \uparrow$, $S \downarrow$

- Subsidy decreases cost, $S \uparrow$

4- Prices of substitutes in production

"السلع البديلة"

- If (x,y) are substitutes in production, then:

$P_x \uparrow$, $S_y \downarrow$

إذا سعر إنتاج x زاد، كل الناس يقصر

بصا إنتاج x عشان تربح أكثر، ف يبطل

هذا إنتاج y $\Rightarrow S_y \downarrow$

العلاقة عكسية

$\left\{ \begin{matrix} P_x, S_y \\ x, y \end{matrix} \right\}$

5- Producer expectation:

Producers expect that the product price in future will increase, Supply decrease → ~~تقللوا الإنتاج~~ "تقللوا الإنتاج"
 "يقللوا الإنتاج المربوط والعالي لما ترتفع الأسعار ويريدوا أكثر"

6- Number of sellers:

if # of sellers ↑, S ↑

يزيد الـ suppliers لأي سلع وإنتاجها يزيد

Apr. 1. 2020
Wednesday

* Market equilibrium:

Prices	Qd (إتي مطلوب)	Qs (إتي ينتجو)	Qs - Qd (المخزون)
5	10	60	50
4	20	50	30
⇒ 3	35	35	0 ⇒ Market equilibrium point
2	55	20	-35 (في عجز)
1	80	5	-75

⇒ Eq. point: $Q_s = Q_d$

→ Eq. price = 3 ($P_e = 3$)

Eq. quantity = 35 ($Q_e = 35$)

Apr. 6. 2020
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⇒ @ prices above equilibrium, say = 4 :-

∴ $Q_s > Q_d$ ⇒ surplus "excess supply"

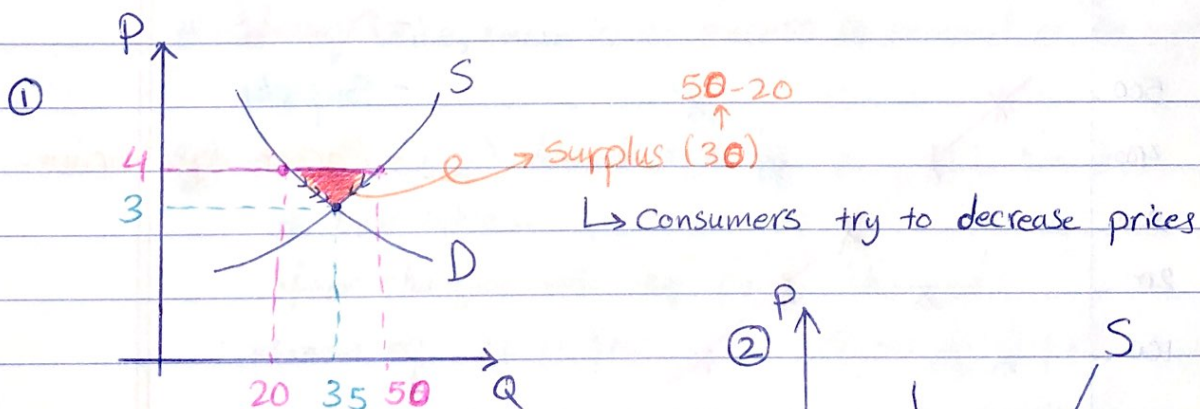
$Q_s - Q_d = 50 - 20 = 30$ زيادة في إمداد

* $\Rightarrow$ @ prices below equilibrium, say = 2 :-
 $Q_s < Q_d \Rightarrow$ shortage "excess demand"
 $Q_s - Q_d = 20 - 55 = -35$ زيادة في الطلب
 35 * $\Leftarrow$ shortage عجز

* $\Rightarrow$ @ equilibrium: $Q_s = Q_d \Rightarrow Q_s - Q_d = \text{Zero}$
 no surplus, no shortage.

تعريف Equilibrium Price: the price where quantity demanded equal quantity supply.

- If $P > P_e \Rightarrow$ surplus $\Rightarrow$ competition between producers to decrease prices ($P \downarrow$) till $P = P_e$
- If $P < P_e \Rightarrow$ shortage $\Rightarrow$ competition between consumers to increase prices ($P \uparrow$) till $P = P_e$



Shortage $\Rightarrow$ producers should pay more ~~the~~ because consumers increase prices $P = P_e$ $\Rightarrow$ $\uparrow Q_s$

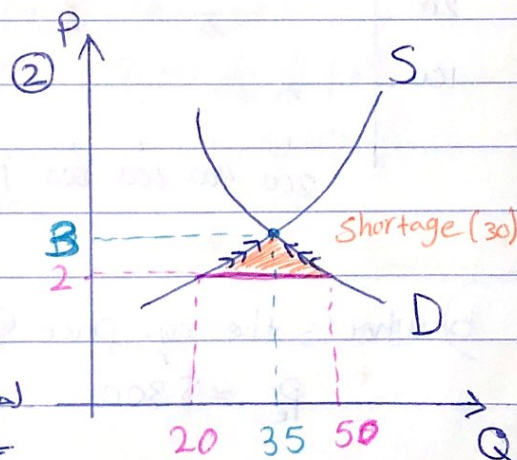


Illustration:

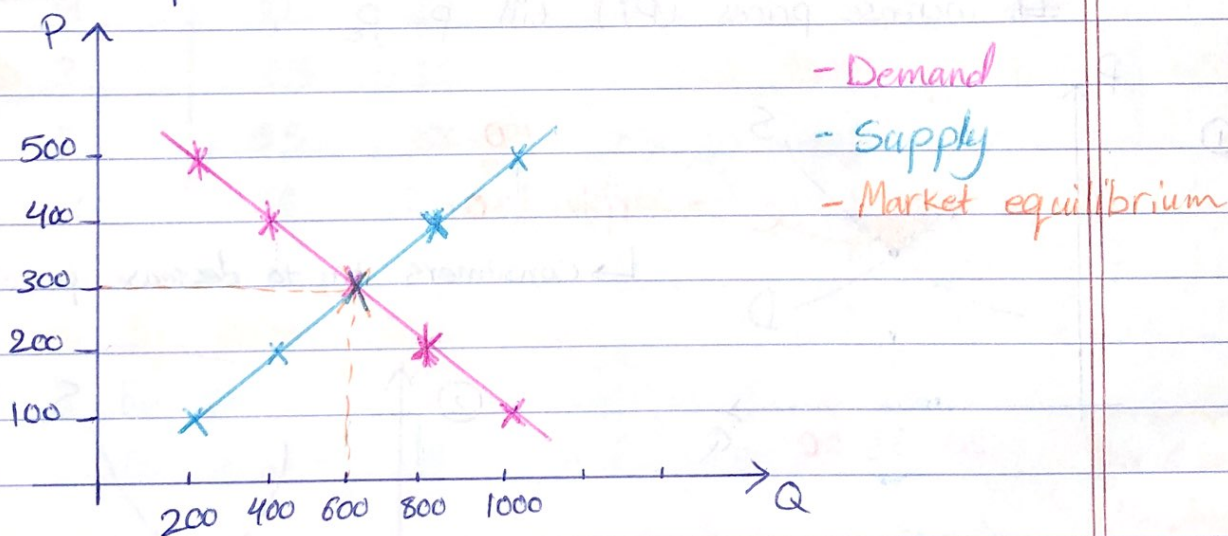
The following table represents the supply and demand for **one** seller and **one** buyer, suppose the market contains 10 buyers and 10 sellers:- $\Rightarrow$ **One**

لواحد - من المشترين في 10

Price	Qd	Qs	Market Qd	Market Qs
100	100	20	1000	200
200	80	40	800	400
$\Rightarrow$ 300	60	60	600	600
$\Rightarrow$ 400	40	80	400	800
New 500	20	100	200	1000

↓
e

a) $\Rightarrow$ Plot (الرسم) the **market** demand & the market supply.



b) What's the eq. price & quantity in this market?

$$P_e = \$300, \quad Q_e = 600 \text{ units}$$

c) @the price of \$200, will be a shortage or surplus? And by how much? Will price tend to increase or decrease?

Sol:- @ \$200 $\rightarrow Q_s = 400, Q_d = 800$

$Q_s < Q_d \Rightarrow$ shortage ; by 400, $P \uparrow$

d) When the government sets the price of \$400, will there be surplus or shortage? And by how much?

Sol:- @ $P = \$400 \rightarrow Q_s = 800, Q_d = 400$

$Q_s > Q_d \Rightarrow$ surplus ; by 400

e) Suppose the government purchased 400 units of each price level, what's a new eq. price and quantity?
@ old eq. price, there is an excess demand or supply?

Sol:- أي حيا يشتري ← تأثير على ال demand (بزيدي)

$\Rightarrow$ New table:-

after changes $\Rightarrow$ eq. point changed.

$\Rightarrow$ new eq. : @ $P = \$400$

@ old eq. : $P = \$300$
shortage

$\Rightarrow P_e = \$400 ; Q = 800$ units

$Q_s - Q_d = 600 - 1000 = -400$ "excess demand"

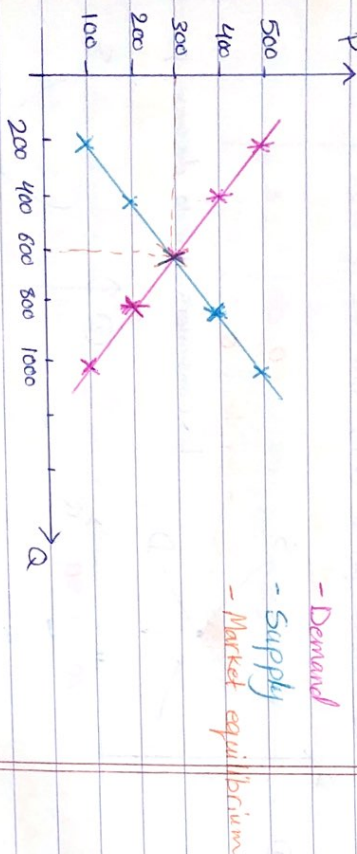
Illustration:

The following table represents the supply and demand for one seller and one buyer, suppose the market contains 10 buyers and 10 sellers :- $\Rightarrow$ One

Price	Q _d	Q _s	Market Q _d	Market Q _s
100	100	20	1100	200
200	80	40	1200	400
$\Rightarrow$ 300	60	60	1300	600
$\Rightarrow$ 400	40	80	1400	800
New 500	20	100	1500	1000

②

a) Plot (P) the market demand & the market supply.



b) What's the eq. price & quantity in this market?

$$P_e = \$300, Q_e = 600 \text{ units}$$

c) @ the price of \$200, will be a shortage or surplus? And by how much? Will price tend to increase or decrease?

$$\text{Sol: } @ \$200 \rightarrow Q_s = 400, Q_d = 800$$

$$Q_s < Q_d \Rightarrow \text{shortage}; \text{ by } 400, P \uparrow$$

d) When the government sets the price of \$400, will be there surplus or shortage? And by how much?

$$\text{Sol: } @ P = \$400 \rightarrow Q_s = 800, Q_d = 400$$

$$Q_s > Q_d \Rightarrow \text{surplus}; \text{ by } 400$$

e) Suppose the government purchased 400 units of each price level, what's a new eq. price and quantity? @ old eq. price, there is an excess demand or supply?

Sol: - (جواب) demand و supply

$\Rightarrow$ New table:-

after changes $\Rightarrow$ eq. point changed.

$$\Rightarrow \text{new eq. : } @ P = \$400 \quad @ \text{ old eq. : } P = \$300$$

Shortage

$$\Rightarrow P_e = \$400; Q = 800 \text{ units}$$

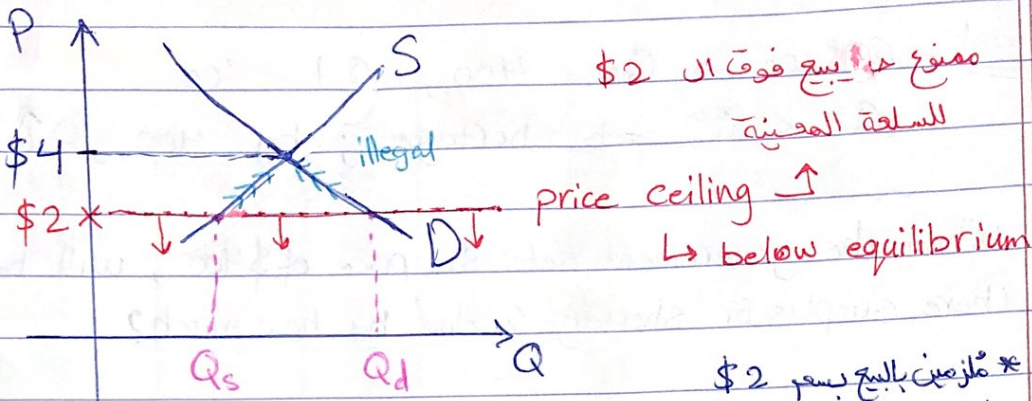
$$Q_s - Q_d = 800 - 1000 = -200 \text{ "excess demand"}$$

الساعة
①

Apr. 8. 20

Wednesday

* **Price ceiling** (سقف): maximum legal price a seller may charge, typically placed below equilibrium



* كل من يبيع بسعر \$2
(إذا باعوا بأقل مما يريه الناس)
معارضة وليس يكونوا خسرانيين.
→ $Q_d > Q_s \Rightarrow \text{shortage}$

⊗ Since $Q_s < Q_d \Rightarrow$ Persistent shortage (عجز مستمر)

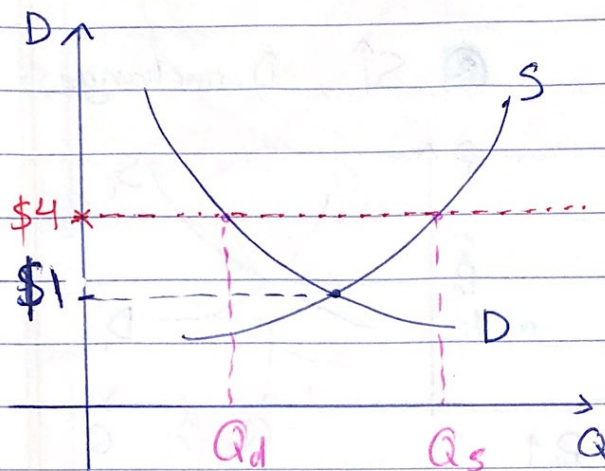
لا تؤولوا برفع السعر عشوائياً
← رصاد يكون بسبب الحكومة (عند سقف السعر) (Price ceiling)
prevent market to reach equilibrium.

الحل: الحكومة ما تتدخل: (أما بنظام، أساليب) note

sol ⇒ Black market (لما نرفع سعر غير قانوني)

(لما يكون في shortage يكون الناس مستعدين يدفع أي سعر
عشان تحصل على هاي السلعة التي توفرها قليل
في مثال، معدات، أطعمة في هاد الوقت
↳ Black market

* **Price floor** : minimum legal price a seller may charge , typically place above equilibrium -
 → 'منع تنزل تحت هاد لاسم'



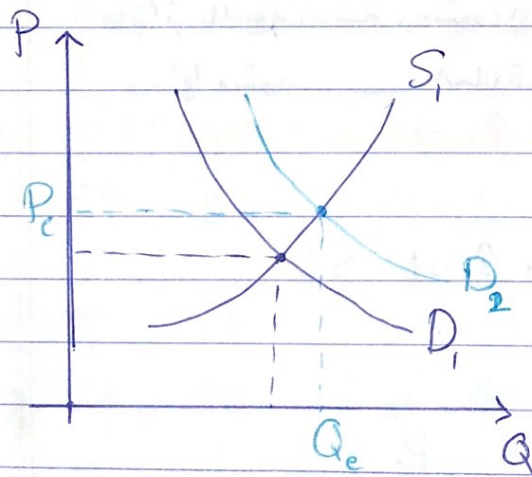
$Q_d < Q_s$
 ↓
 persistent surplus

هادرلما الحكومة بدها تساع
 السغب دزي أسعار
 النقط والكلمات ليعم

floor ⇔ لو الخط فوق ال eq. *

ceiling ⇔ لو الخط تحت ال eq.

① $D \uparrow$, S unchange $\Rightarrow$ P_e ; Q_e (??)

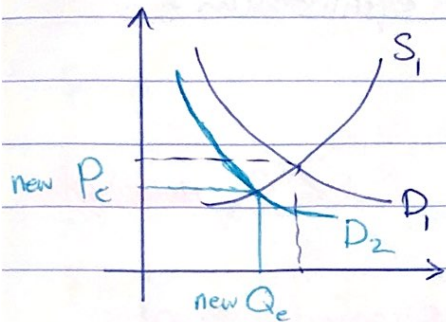


$P_e \uparrow$
 $Q_e \uparrow$

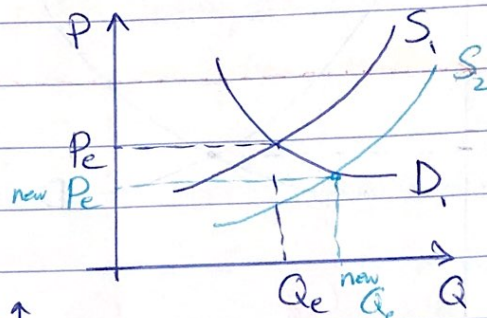
وامدات
 دلتاني بتغير

A

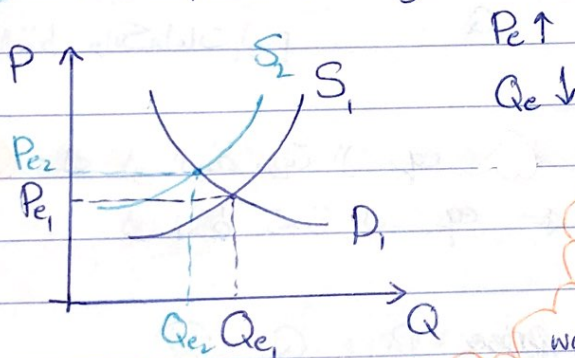
② $D \downarrow$, S unchange :- $P_e \downarrow$
 $Q_e \downarrow$



③ $S \uparrow$, D unchange : $P_e \downarrow$
 $Q_e \uparrow$



④ $S \downarrow$, D unchange :-



$P_e \uparrow$
 $Q_e \downarrow$

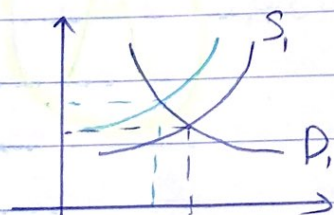
* السؤال يكون : بطينا أحوال
determinants

السيلاي (مثلاً) : زي ال wages

ما بتأثر بالبيانات ← ومشوف إذا ال wages زادوا أو نقصوا
ومنها مشوف الحالة ال 4 المذكورة سابقاً

بيتاثر عـ ال supply

eg. * If technology $\downarrow \Rightarrow \text{cost} \uparrow \Rightarrow S \downarrow$

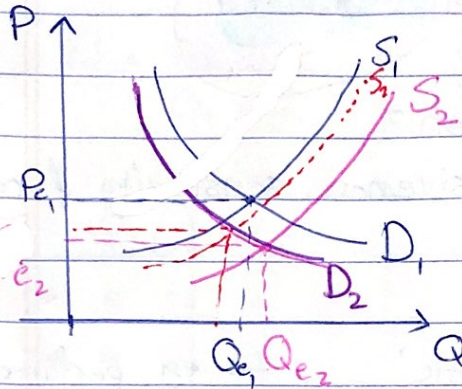


$\Rightarrow Q_e \downarrow$
 $P_e \uparrow$

لما ال S و D
يتغير بنفس
الوقت

(B)

① $S \uparrow, D \downarrow$



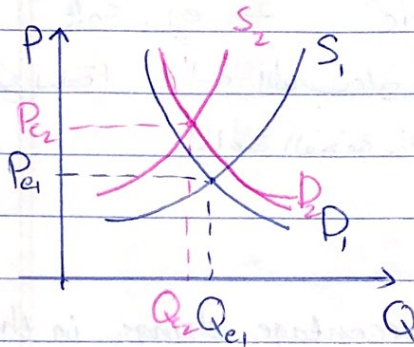
$\Rightarrow P_e \downarrow$

Q_e : uncertain

مس ال shift

⊗ أي إزدي بزي: بروج اليمين

②



$S \downarrow, D \uparrow$

$\Rightarrow P_e \uparrow$

$Q_e \downarrow$

⊗ ال Price يا بقل يا بزي ال Quantity
ال shift (بزي أو بقل) $\leftarrow Q$: uncertain

⊗ $S \downarrow, D \uparrow$: $P_e \uparrow$; Q_e : uncertain

$S \uparrow, D \downarrow$: $P_e \downarrow$; Q_e : uncertain.

لما
يتغير
بعض

⊗ ③ $S \uparrow, D \uparrow$: P_e : uncertain , Q_e : $\uparrow$ (بزي S و D)

④ $S \downarrow, D \downarrow$: P_e : uncertain , Q_e : $\downarrow$