CH 2 Unit 3

SUPPLY

{ ईंट producer से }

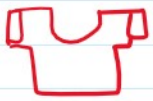
① Supply →  : willing & able

producer — at various prices

₹ 10	200 units
₹ 15	300 units
₹ 25	500 units

Supply

FLOW

② Factors affecting Supply  (shirt)

(i) Price of the Good (P_x)

P_x (↑) S_x (↑)

direct relation

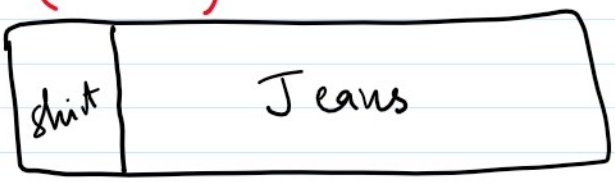
(ii) Price of Competitive (Related) Good (P_R)

shirt	Jeans

Competitive

Competitive good

P_R (↑)



S_x (↓) shirt.

Inverse relation

(iii) Cost of factor of production (F)

(Raw Material)

↓

cotton

F (↑) cost (↑) S_x (↓)

∴ Inverse relation

(iv) Technology

- Advanced : Cost (↓) S_x (↑)
- Obsolete : Cost (↑) S_x (↓)

(v) Excise duty (Tax on Manufacture)

Excise duty (↑) cost ↑

((1)

S_x (↓)

∴ Inverse

(vi) Subsidy :- "financial assistance"

Subsidy (↑) cost (↓)

S_x (↑)

∴ Direct relation

(vii) No. of firms

→ Monopoly (1 firm) — S_x ↓↑

→ Perfect (very large no. of firms) — S_x ↑

etc etc

(3) $Q_x = f(P_x, P_R, F, T, O)$

Supply function

Let us assume

P_R, F, T, O

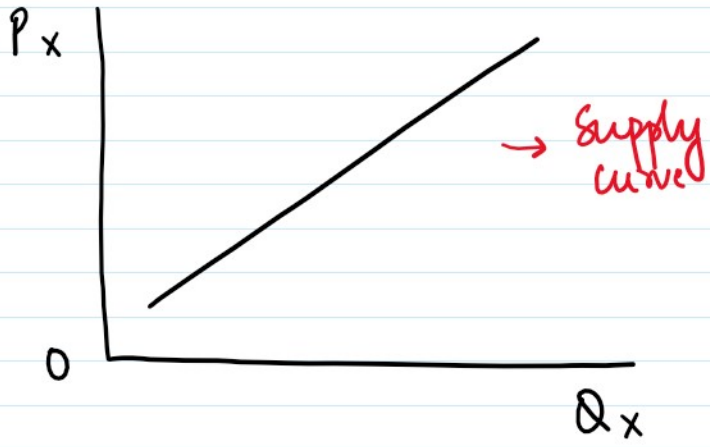
P_R, F, T, O

Constant → Ceteris Paribus

$Q_x = f(P_x)$

Direct relation

Law of Supply



P_x	Q_x
1	10
2	20
3	40
4	100

Direct relation

(4) V. Imp.

$Q_x = f(P_x)$ | P_R, F, T, O

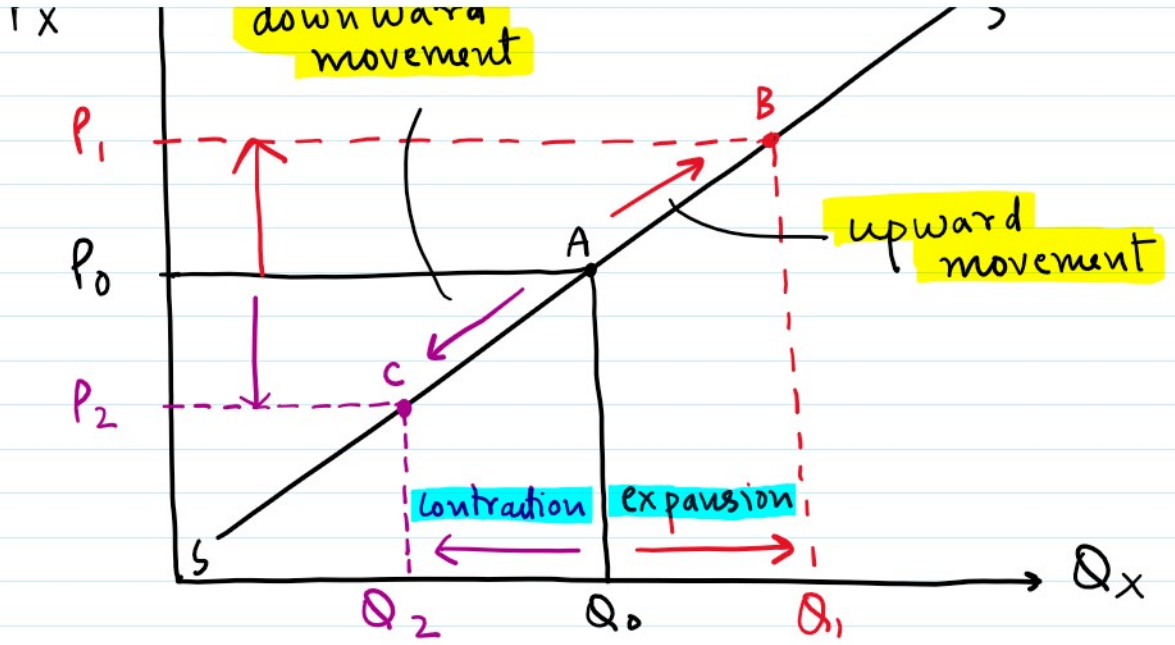
Change in Quantity Supplied

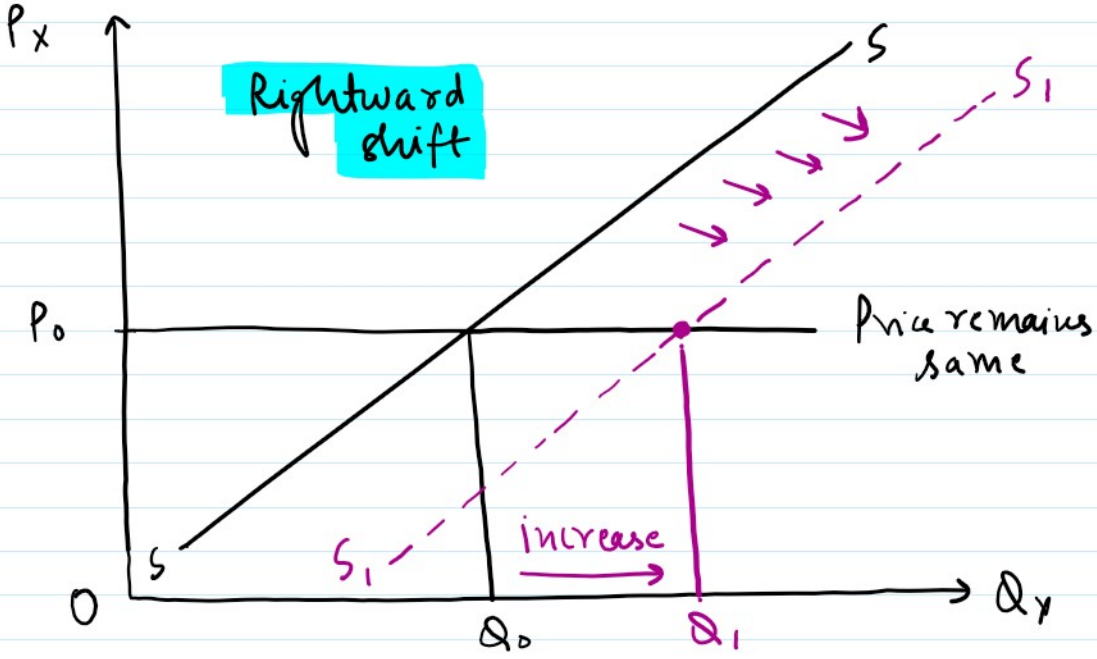
- Expansion
- Contraction

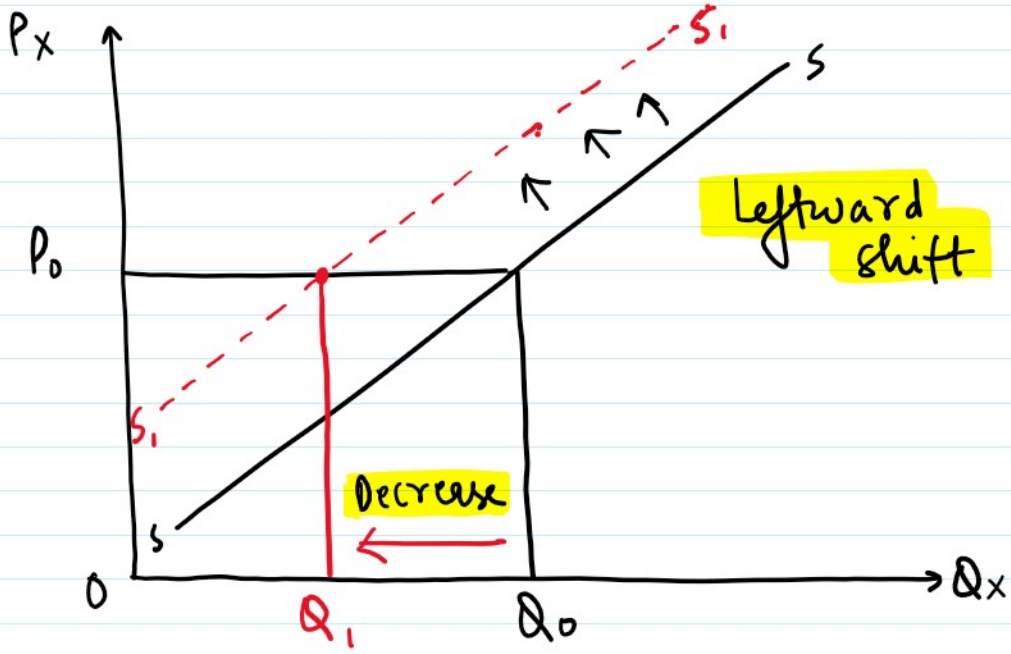
Change in Supply

- Increase
- decrease

$P_x \uparrow$ downward movement


Px
downward movement
P1
P0
P2
B
A
C
upward movement
contraction
expansion
S
Q2
Q0
Q1
Qx


Px
Rightward shift
S
S1
P0
Price remains same
S
S1
increase
O
Q0
Q1
Qx


Px
S1
S
Leftward shift
P0
S1
Decrease
S
O
Q1
Q0
Qx

(6) Price elasticity of Supply (E_s)

$$= \frac{\%\ \text{Change in Quantity } (Q_x)}{\%\ \text{change in Price } (P_x)}$$

E_s is always **positive**

$$\frac{Q_x\,(+)}{P_x\,(+)} = \frac{Q_x\,(-)}{P_x\,(-)}$$

Degrees

$E_s = \infty$	$E = 0$	$E > 1$	$E < 1$	$E = 1$
$\%\ \Delta P = 0$	$\%\ \Delta Q = 0$	$\%\ \Delta Q > \%\ \Delta P$	$\%\ \Delta Q < \%\ \Delta P$	$\%\ \Delta Q = \%\ \Delta P$

$\%\ \Delta Q = (N)$; $\%\ \Delta P = (D)$

				
parallel to x axis	parallel to y axis	Flatter (cuts Y axis)	Steeper (cuts X axis)	passes through origin
$E = \infty$	$E = 0$	$E > 1$	$E < 1$	$E = 1$

E > 1 | E < 1 | E = 1

Methods

Point elasticity

$$E = \frac{\%\ \text{C in } Q}{\%\ \text{C in } P}$$

$$= \frac{Q_1 - Q_0}{P_1 - P_0} \times \frac{P_0}{Q_0}$$

Arc elasticity

$$E = \frac{Q_1 - Q_0}{Q_1 + Q_0} \times \frac{P_1 + P_0}{P_1 - P_0}$$

Factors affecting elasticity of Supply

change हो सकती है ← $E > 1$ (elastic)

change नहीं/कम होगी ← $E < 1$ (inelastic)

1. **Time period**
   - Long : $E > 1$
   - Short : $E < 1$

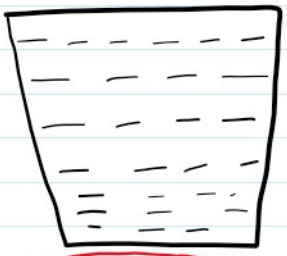
2. **Expected lost of production**

production ↑↑↑ LOST ↑↑↑

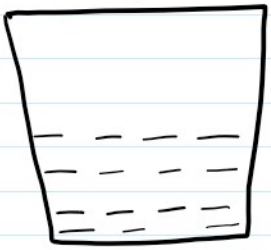
Supply inelastic

inelastic

(3) **Full Capacity or not full capacity**



E < 1



E > 1

(iv) **Availability of Raw Materials**

Cotton

→ Not easily available → E < 1

→ easily available - E > 1

(v) **Substitutability**

Factors

Labour ⇄ Capital

- easily — E > 1
- Hard — E < 1

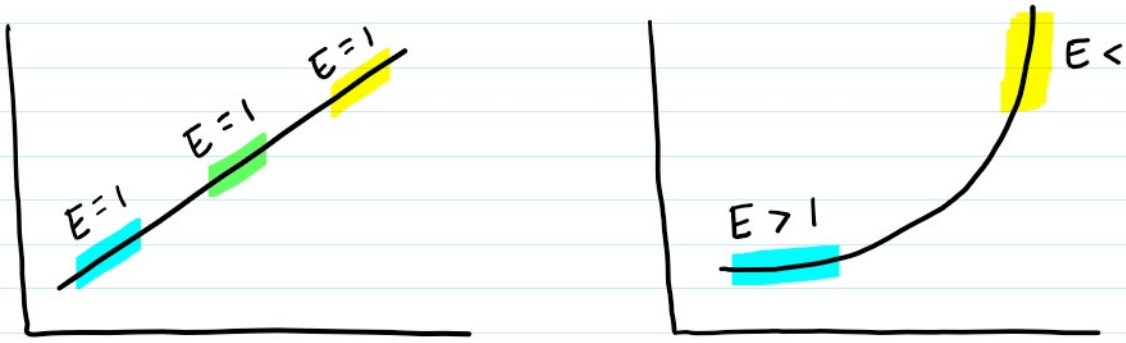
(vi) **Mobility**

- easy :- E > 1
- Hard :- E < 1

Hard :- $E < 1$

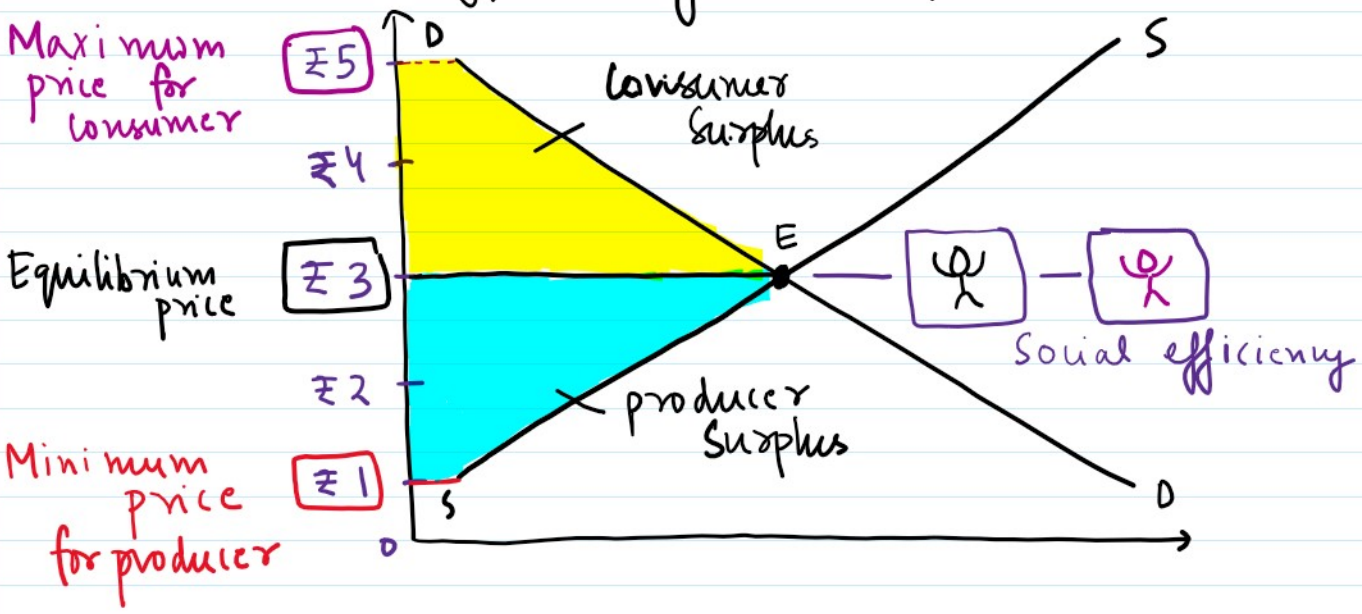
* Can there be different elasticities on same supply curve ?

Yes (Non-linear supply curve)



linear

* Social efficiency + Equilibrium



Q1- $Q = (-)100 + 10P$

Q1 - $Q = (-)100 + 10P$

Find E_s when Price is ₹ 15 → P_0

Sol:- $Q_0 = (-)100 + 150$

$Q_0 = 50$

Assume $P_1 = ₹25$

$Q_1 = (-)100 + 250 = 150$

$$E = \frac{Q_1 - Q_0}{P_1 - P_0} \times \frac{P_0}{Q_0} = \frac{150 - 50}{25 - 15} \times \frac{15}{50} = 3$$

Q2 - $P_0 = ₹15$, $Q_0 = 400$

Fall in price is 20% & Quantity falls by 30%. Find E_s by arc method

Sol:- $P_0 = 15$, $Q_0 = 400$

$P_1 = 12$, $Q_1 = 280$

$$E = \frac{Q_1 - Q_0}{Q_1 + Q_0} \times \frac{P_1 + P_0}{P_1 - P_0}$$

$$= \frac{280 - 400}{280 + 400} \times \frac{12 + 15}{12 - 15}$$

$$= \frac{(-)\cancel{120}}{\cancel{680}} \times \frac{\cancel{27}^{9}}{\cancel{(-)3}}$$

$$= 1.58$$

$$\times \_\_\_\_ \times \_\_\_\_ = 1.58 \times \_\_\_\_ \times \_\_\_\_ \times \_\_\_\_ \times$$