

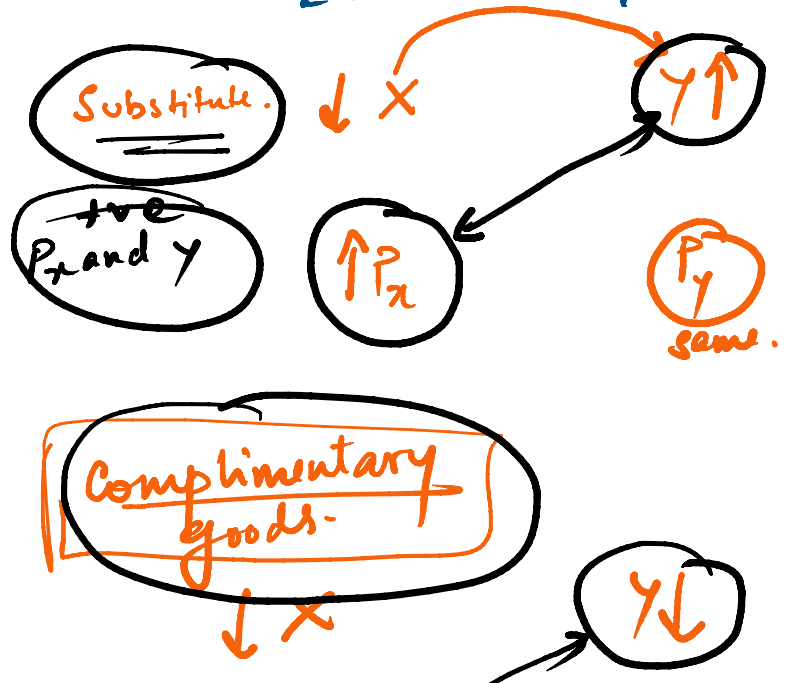
Demand and Supply

1) Demand → fulfilling want with purchasing power
 i.e. a) Ability to pay.
 b) willingness to pay.

2) Factors affecting Demand :

1. Price (P) (-ve)
2. Income (M) (+ve)
3. Price of Related Goods
 (Substitute +ve.
 complement -ve).
4. Taste & Preferences (T)
5. Advertisement.
6. No. of buyers.
7. Expectation regarding future prices.

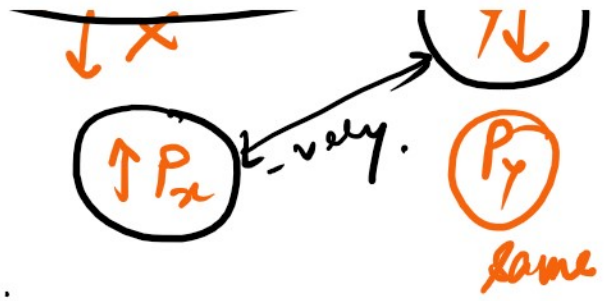
Related Goods
 a) Substitute Goods
 Substitute/replacing a good with another cheaper good.
 Ex: Tea and coffee
 b) Complimentary goods.
 always consumed together.
 Ex: car and petrol



Law of Demand:

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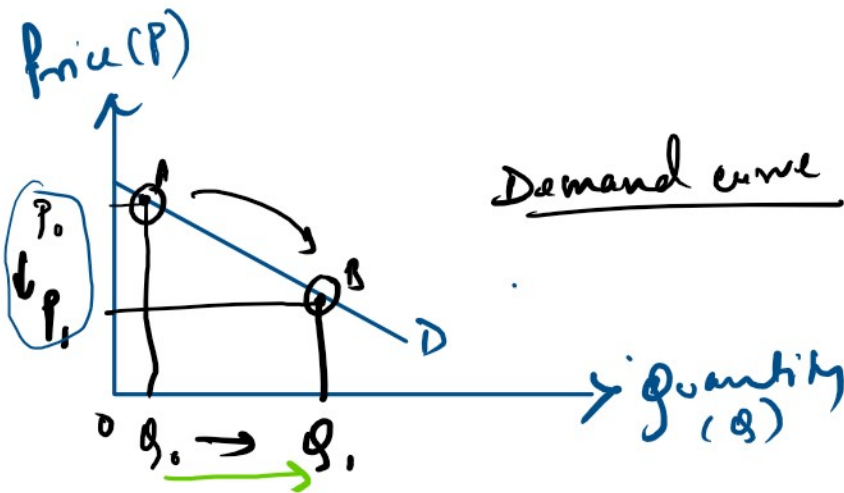
↓
Shift and No shift
in Demand.



→ All factors remaining constant, if the price of a commodity increases then quantity demanded for that commodity will decrease and vice versa.

This inverse relation between price and quantity demanded of a commodity is Law of Demand.

∴ Demand curve is -vely sloped.
(or downward)



↓
Price is changing (while other factors are constant)
↳ we are moving from pt A to pt B on same demand curve.



↳ we are moving from p: ...
same demand curve.

↳ Movement along the same curve
(No shift in demand curve)

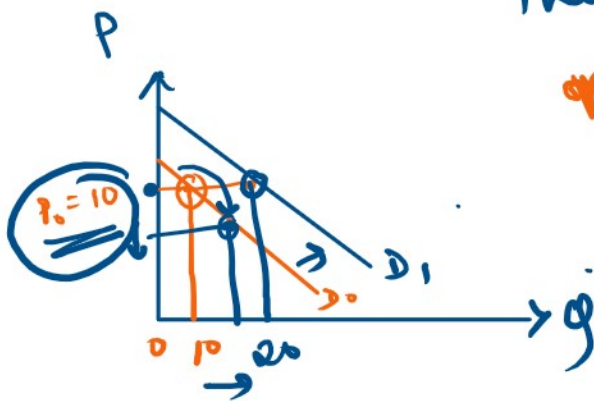
↳ change in QUANTITY demand.

when there will be shift?

Hint: check if Price is constant.

Ex:

Initially let income $M_0 = 100$ & other factors
when price $P_0 = 10$
then $Q_0 = 10$ units



now income increases
from M_0 to $M_1 = 200$
while other factors
are constant.

(increase in demand
decrease in demand)

* Comparison between shift
in demand and movement along
the same curve.

Suppose price of tea increases when all other
factors in the market is constant. (No shift)
what will happen to demand curve for tea.
demand curve for coffee.

what will happen

b) demand curve for coffee.

Elasticity of Demand

↳ Responsiveness of demand to change in factors

↳ Own price

○ Related price

○ Income

↓
price of coffee is same.
price of related good tea ↑

so demand for coffee ↑
↑ → rightward shift

1. own price elasticity of Demand ($|e_p^x|$)
2. cross price elasticity of Demand ($e_c^{x,y}$)
3. income elasticity of Demand (e_m^x)

1. Own price elasticity of demand is defined as the ^{ratio} percentage change in quantity demanded of a commodity w.r.t % change in price of the same commodity

$$e_p = \frac{\% \text{ change in Quantity Demand of } X}{\% \text{ change in price of } X}$$

Suppose at $P_0 \rightarrow X_0$
Price increases $P_1 \rightarrow X_1$ (quantity demand decreases)

change in price, $\Delta P = P_1 - P_0 > 0$

change in Quant_{Dem}, $\Delta X = X_1 - X_0 < 0$

→ % change in price = $\frac{P_1 - P_0}{P_0} \times 100$

→ % change in QD = $\frac{X_1 - X_0}{X_0} \times 100$ ✓

$$e_p = \frac{\frac{X_1 - X_0}{X_0} \times 100}{\frac{P_1 - P_0}{P_0} \times 100}$$

$$e_p = \frac{\frac{\Delta X}{X_0}}{\frac{\Delta P}{P_0}}$$

$$|-2| = 2$$

m1

$ e_p = \left \frac{\Delta X}{\Delta P} \cdot \frac{P_0}{X_0} \right $
--

Q

The quantity demanded of a commodity at a price of Rs 10 per unit is 500 units.

Its price falls by 20% and as a result quantity demanded rises by

150 units. What is the value of elasticity of demand?

From the question:

initial price $P_0 = \underline{\text{Rs } 10}$

From the graph

initial price $P_0 = \text{Rs } 10$

initial QD, $X_0 = 500$ units

\therefore % change in Price = -20%

change in QD, $\Delta X = X_1 - X_0 = 150$ units

$$\begin{aligned}\therefore \text{ \% change in QD} &= \frac{\Delta X}{X_0} \times 100 \\ &= \frac{150}{500} \times 100 \\ &= 30\%\end{aligned}$$

Now we know

$$e_p = \frac{\text{\% change in QD}}{\text{\% change in P}} = \frac{30}{-20} = -1.5$$

$$\text{or, } |e_p| = 1.5 > 1$$

↑
elastic demand.

Q2 A consumer purchases 20 units of a commodity when its price was Rs 10 per unit. He purchased 24 units of commodity when its price fell to Rs 8 per unit. What is the price elasticity of demand for the commodity?

Solu

$$P_0 = 10$$
$$P_1 = 8$$

$$Q_0 = 20$$
$$Q_1 = 24$$

Change in price, $\Delta P = P_1 - P_0 = 8 - 10 = -2$

Change in QD, $\Delta Q = Q_1 - Q_0 = 24 - 20 = 4$

$$e_p = \frac{\Delta Q}{\Delta P} \times \frac{P_0}{Q_0} = \frac{4}{-2} \times \frac{10}{20} = -1$$

$|e_p| = 1$ (unit elastic)