11 December 2023 08:08 PM

Exceptions to the Law of Demand:

↓

Violation

(Demand curve is not downward sloping).

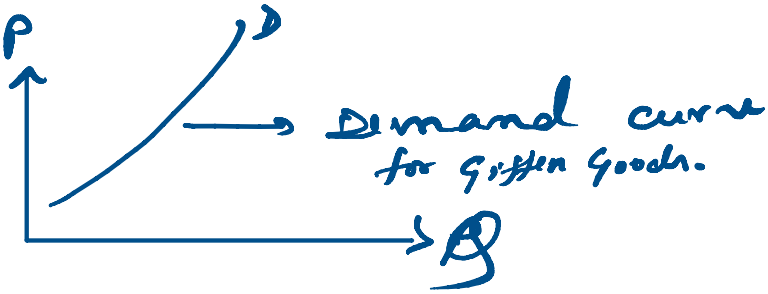
① **Giffen Effect**: when the price of a commodity (say potato) rises, people tend to reduce the purchase of other commodities which are more expensive (say meat) to increase the consumption of potato.

Thus when the price of potato falls, the consumer's purchasing power increases, which means the consumer's real income has increased.

So Consumption of potato decreases as the real income of the consumer has increased even though the price of potato has decreased.

In Law of demand, as the price of a commodity falls, its consumption rises due to Substitution effect (SE). And in this case, Income effect (IE) is so strong that it dominates the SE.

And in this case, the IE is so strong that it dominates the SE. and there is a positive relation between price and quantity demand. Thus Law of Demand is violated and there is an upward sloping demand curve in case of Giffen Goods.



(ii) Conspicious Consumption → purchasing to show-off.

(iii) Bandwagon effect :→

(iv) Snob effect :→

(v) Veblen effect:

——— * ———

Axioms of Ordinal Utility Theory

① Completeness
Consumer ranks goods according to preference

(1) Completeness

Ranking bundles according to preference of the consumer.

(2) Transitivity: Three bundle A, B, C then transitivity implies,

If $A \succeq B$, $B \succeq C$

$\rightarrow A \succeq C$.

(3) Reflexiveness: If two bundles A and B are completely identical, then consumer is indifferent between A and B.

ie $A \sim B$.

(4) Non-Satiation: also known as axiom of dominance.

ie a consumer always prefers more to less.

(5) Continuity: This axiom states that even if there is a very small change in quantity of a good, there will be change in ranking of bundles.

ranking of

(6) Convexity: This axiom states that if commodity bundles 'A' and 'B' are indifferent then any convex combination of 'A' and 'B' should lie in the convex set.

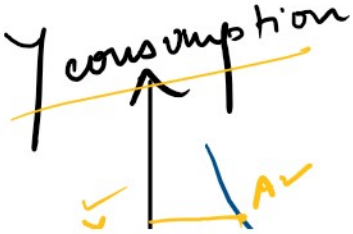
ie, average is better than extreme set.

Indifference Curve (IC):

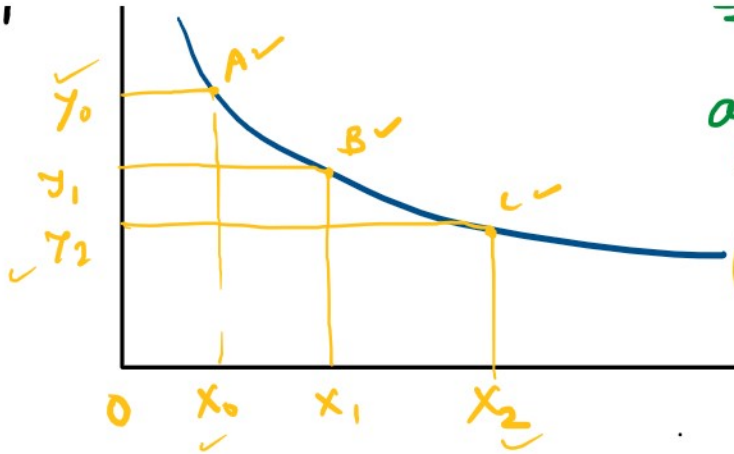
Total Utility from consumption of two commodities X and Y is denoted as

$$U = U(x, y)$$

when this utility is constant (we can draw an IC for different combination of x and y).



def: IC is a line that shows diff alternative combinations of



— that shows all alternative combinations of consumption of X and Y such that the utility remains constant along IC.

Because there is a trade off between the amount of consumption of X and Y ∴ IC is downward sloping.

What is the slope of an indifference curve?

$U = U(x, y)$ (utility fn).

Total derivative of this utility fn is

$$du = \frac{\partial u}{\partial x} \cdot dx + \frac{\partial u}{\partial y} \cdot dy$$

Since utility is constant along an IC

$\therefore du = 0$

$$0 = \frac{\partial u}{\partial x} \cdot dx + \frac{\partial u}{\partial y} \cdot dy$$

$$\text{or} \quad -\frac{\partial u}{\partial x} dx = \frac{\partial u}{\partial y} \cdot dy$$

$$\text{or,} \quad \frac{dy}{dx} = -\frac{\partial u/\partial x}{\partial u/\partial y}$$

(Slope)

$$\text{or, } \frac{dy}{dx} = -\frac{MU_x}{MU_y} < 0 \quad (\text{slope of IC})$$

$\therefore$ IC is down ward sloping

Marginal Rate of Substitution between X and Y ($MRS_{x,y}$)

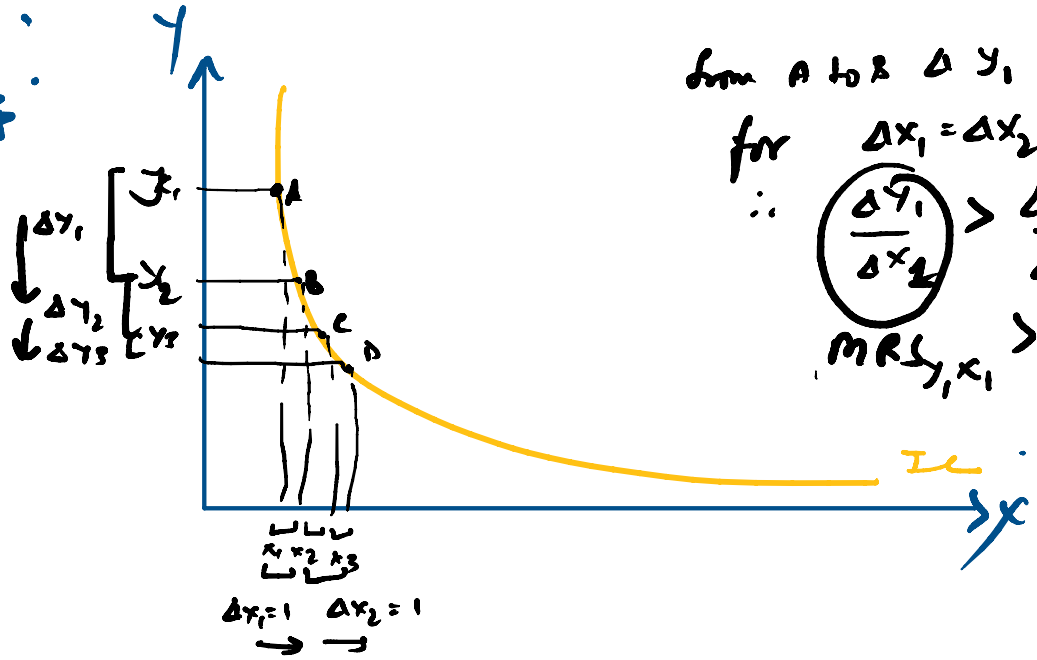
↳ it is the amount of Y consumption given up or sacrificed for each additional unit of X consumption by a consumer to keep the satisfaction level or utility constant (ie to stay on same IC)

$$MRS_{x,y} = \left| \frac{MU_x}{MU_y} \right|$$

Since $MRS_{x,y}$ is diminishing.

$\therefore$ IC is convex to the origin.

Proof:



from A to B $\Delta y_1 > \Delta y_2$

for $\Delta x_1 = \Delta x_2 = 1$ unit.

$\therefore \dfrac{\Delta y_1}{\Delta x_1} > \dfrac{\Delta y_2}{\Delta x_2}$

$MRS_{y_1 x_1} > MRS_{y_2 x_2} > \ldots\ldots$

$\therefore$ MRS is diminishing

And IC is convex.