

Theory of Consumer Behaviour ♥♥

Wants: wish or desire, Unlimited, differ in intensity, satiable, competitive, complementary, subjective & relative.

Classification of Wants

- 1) Necessaries: essential for living
 - Necessaries for life - to meet minimum Physiological needs
 - Necessaries for efficiency - to maintain energy & efficiency of work
 - Conventional necessary - arise due to pressure of habit
- 2) Comforts: less urgent than necessities
- 3) Luxuries: expensive wants, not essential for living

Utility: measure of satisfaction, subjective, not absolute but relative, varies from person to person, ethically neutral.

Marginal utility Analysis (by Alfred Marshall) Cardinal Utility
Utility $\rightarrow$ measured numerically $\rightarrow$ in terms of utils (measuring unit)

Total Utility $\rightarrow$ sum of Marginal utility from diff. units.

$$TU = MU_1 + MU_2 + \dots + MU_n$$

Marginal utility $\rightarrow$ utility derived from one additional unit consumed

$$MU_n = TU_n - TU_{n-1} \quad \text{or} \quad MU = \Delta TU / \Delta Q$$

Assumptions:-

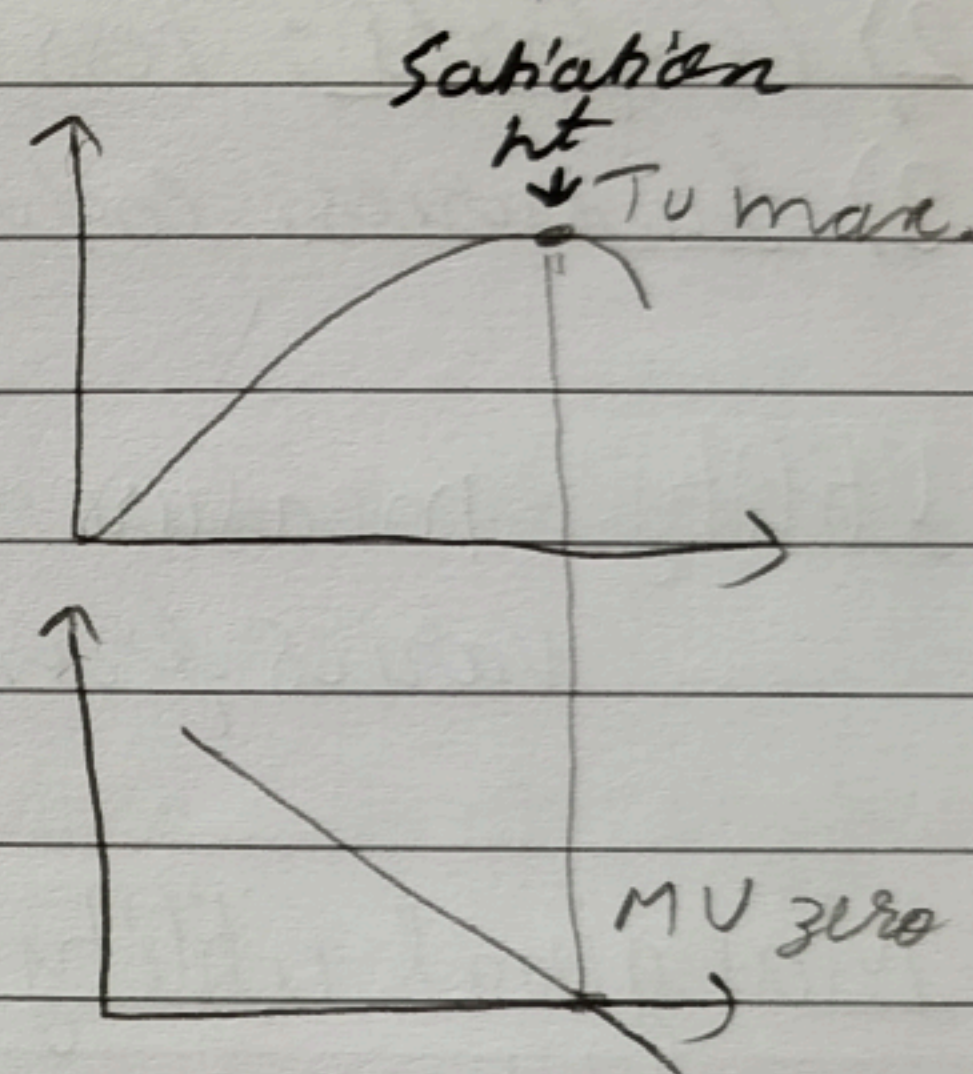
- Consumer is rational → continuous consumption → Homogeneous units ^{→ same}
- Utility is measurable & quantifiable entity. (Cardinal concept)
- Money is measuring rod of utility.
- Marginal utility of money remains constant (Not realistic)
- All the factors constant → consist of standard units → goods divisible
- $TU = \text{Sum of separate utilities of goods}$ (ignores complementarity) in nature without looking its value.

Law of Diminishing Marginal utility

- Consumption of any one commodity ↑ Marginal utility ↓

Relationship b/w TU & MU

- MU is +ve → TU ↑ at diminishing rate
- MU is zero → TU is maximum → Satiation point
- MU is -ve → TU ↓
- MU always decreases. (downward sloping curve)
- Slope of $TU = MU$ (rate of change of TU)



Exceptions to Law of DMU [MU will Inc. with every additional unit]

- Prestigious goods (Gold, Ash) → Hobbies, rare collections
- Creative art, painting, music → People with miserly behaviour
- Habit forming commodities (Alcohol, games)

Limitations to Law of DMU

- Operate only when unrealistic assumptions are met.
- MU curve is seriously affected by presence or absence of substitute & complementary goods.

Consumer Eqb^m (single commodity)

- consumer keeps on buying a good until, $MU \text{ of good} = \text{Price}$
- Thus consumer will be in eqb^m when, $MU_n = P_n$
- Price falls → consumer will consume more until MU falls & becomes equal to the new lower price.
- Price rises → he will buy less to restore the equality.
- ⇒ Downward sloping DC is directly derived from MU curve.

Consumer Eqb^m (more than one good)

- Explained by Law of Equi-Marginal Utility.
- consumer will be in eqb^m when, MU of each good is proportional to its price and last ~~one~~ rupee spent on each commodity yields equal MU .

$$\frac{MU_n}{MU_y} = \frac{P_n}{P_y}$$

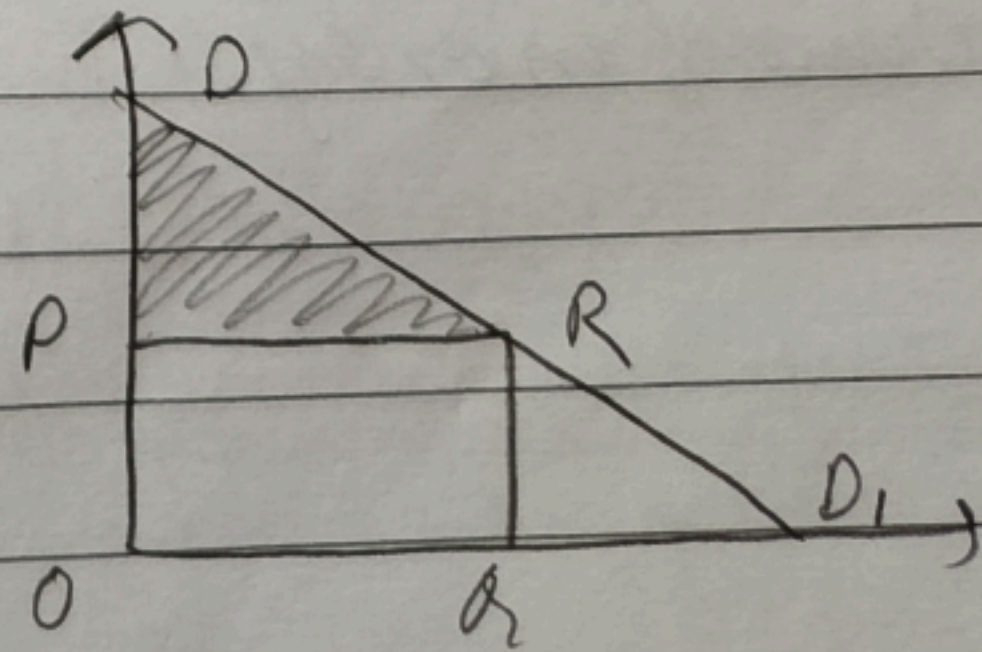
Consumer Surplus

- ⇒ Price consumer is willing/ready to pay - what he actually pays.
- ⇒ It is either positive or nil (can't be negative)
- ⇒ derived from Law of DMU.
- ⇒ Area below Market Demand curve but above the price.

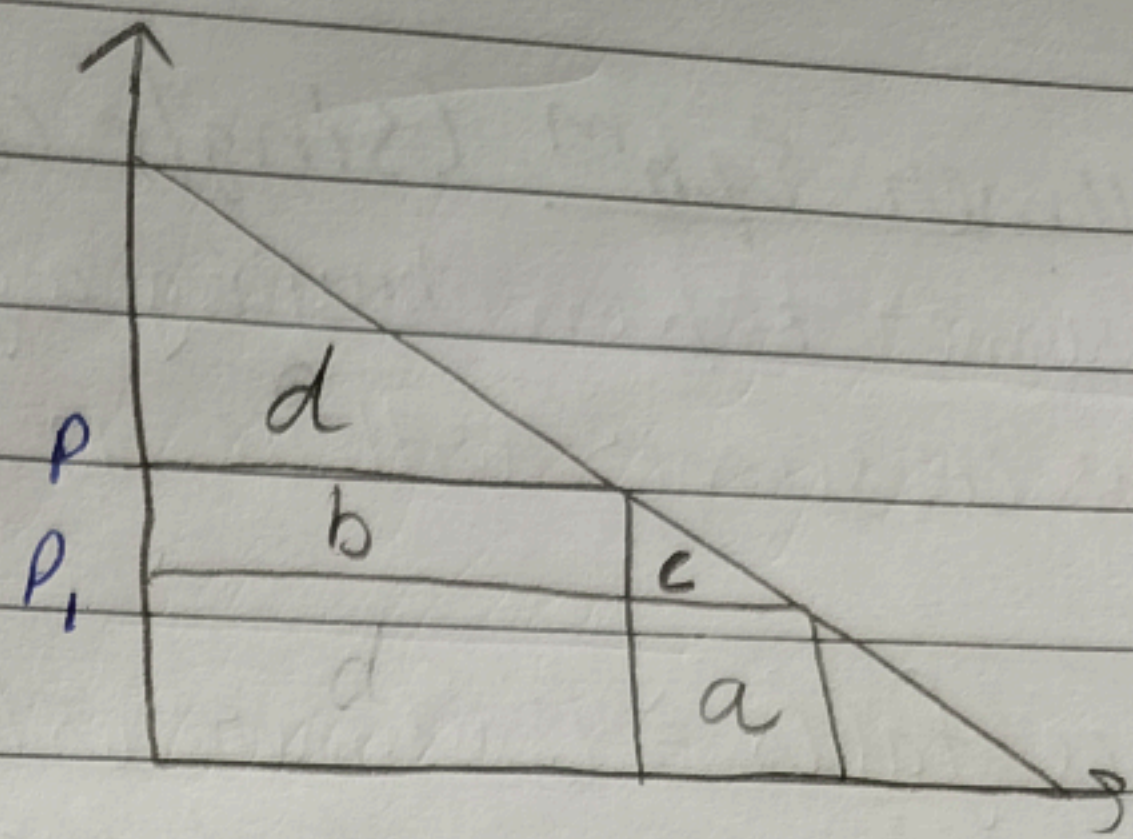
→ Total Utility = $ODRQ$

→ Consumer surplus = DPR

→ Portion of RP_1 is not relevant as $MU_n < P_n$



⇒ Price ↑ consumer surplus ↓
Price ↓ consumer surplus ↑



2) Price fall from P to P_1
→ Inc. in consumer surplus.

for existing buyers (b),
→ consumer surplus for new buyers (c)

2) Price Inc. from P_1 to P ,

→ consumer surplus reduced to (d)

→ Inc. in rev. earned by seller (b)

→ Rev. lost by seller (a)

Application of consumer surplus

→ Better decision about setting prices

→ large scale investment decisions

→ guide to finance minister about taxes to be imposed.

Limitation of consumer surplus

→ cannot be measured precisely.

→ Necessaries ⇒ MU of earlier units is infinitely large, Con. surplus = ∞

→ affected by substitutes

→ this concept can be accepted if it is assumed utility is measured in terms of money.

Indifference Curve Analysis [By Hicks & Allen] Ordinal approach

→ Consumer ~~reference~~ reference approach → ordering of preferences

Assumptions

- Consumer knows his tastes & preferences.
- Consumer is rational → capable of ranking all combinations of goods.
- He is transitive ⇒ consistent consumption pattern.
- Assumption of non-satiation ⇒ more is better.

Indifference curve / Iso-utility curve / Equal utility curve

→ All the combinations on an indifference curve give equal satisfaction, consumer is completely indifferent among them.

Indifference curve Map

- A set of indifference curves is called Indifference curve map.
- ⇒ It depicts the complete picture of consumer tastes & preferences.

Properties of an Indifference curve

- 1) Slopes downward to the right
- 2) Never intersect each other.
- 3) Higher indifference curve represent higher level of satisfaction.
- 4) IC curve will not touch either axes.
- 5) IC curve are always convex to origin, But

Perfect substitutes have straight & parallel IC curve
with constant slope i.e. MRS is constant.

Perfect complements two straight line with a right
angle bent i.e. L-shaped IC curve.

MRS is undefined

Marginal rate of substitution [slope of IC curve]

→ rate at which consumer is prepared to exchange goods n & y, holding level of satisfaction constant. → change along y axis
change along n axis
Sacrifice
Gain

→ So moving down the IC curve
2 opposing effects (reduction in TV & Inc. in TV)
must cancel out each other.

Principle of Diminishing MRS states that more of good y a person consumes in proportion to good n the less he is willing to substitute.

MRS is always falling because:

- Want is satiable, consumer has more of that good, his desire for additional units decreases.
- Most goods are imperfect substitutes.

Marginal rate of subs. of n for y → $MRS_{ny} = \frac{MU_n}{MU_y}$

→ MRS falls → IC curve becomes flatter (less sloped) as we move down to right.

Budget line / Price line

→ combinations within the reach of consumer, that he can buy.

$$P_n Q_n + P_y Q_y \leq B$$

→ Assume: Consumer uses his entire money income, so

$$P_n Q_n + P_y Q_y = B$$

→ measures the rate at which consumer can trade one good for another.
Slope of budget line → Price ratio i.e. $\frac{P_n}{P_y}$

Budget line tends to shift when:

- 1) change in price of one or both goods, income constant.
- 2) change in income, no change in price of either goods.
- 3) change in both, price of commodity & income of buyer.

Consumer eqb^m

→ consumer is in eqb^m when, he is deriving max. possible satisfaction & is in no position to rearrange his purchase of goods.

Assumptions:-

- has a given Indifference Map → shows scale of preferences
- has a fixed money income → has to spend wholly on goods.
- Prices of goods are fixed.
- Goods are homogeneous & divisible.
- Rational consumer → maximize his satisfaction.

Consumer choice should satisfy 2 criteria:-

- 1) Point on his Budget line [every combina. on budget line costs same]
- 2) Highest IC curve possible.

Consumer eqb^m is achieved → Price line tangent to IC curve
i.e. slope of price line (P_n/P_y) = slope of IC (MRS)

$$MRS_{ny} = \frac{MU_n}{MU_y} = \frac{P_n}{P_y}$$