

MODULE III CONSUMER BEHAVIOUR

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Consumer Behaviour

consumer behaviour is the study of how individual customers, groups or organizations select, buy, use & dispose ideas, goods & services to satisfy their needs & wants. It refers to the actions of the consumers in the market-place & the underlying motives for those actions.

Utility

The want satisfying power of a commodity is its utility. It refers to the degree of pleasure or satisfaction that an individual receives from an economic act.

Cardinal Utility Analysis & Ordinal Utility Analysis

Cardinal utility is the idea that economic welfare can be directly observable & be given a value. This theory was proposed by Alfred Marshall.

*The theory is important to rational choice theory.

* It implies that satisfaction or utility of a commodity can be supported with a numeric value.

Ordinal utility theory was proposed by J.R. Hicks which ~~is based~~ states that utility / satisfaction of a commodities can be ranked but utility cannot be cardinally calculated or given exact value.

* the ranking of utility is based on ordinal scale.

Law of Equi-Marginal Utility / Gossen's Second Law

Gossen's second law or law of Equi marginal Utility is the assertion that an economic agent will allocate his or her expenditures such that the ratio of the marginal utility of each good / service to its price is equal to that for every other good / service.

* It ~~says~~ explains how consumer spends his limited income on various commodities to get maximum satisfaction.

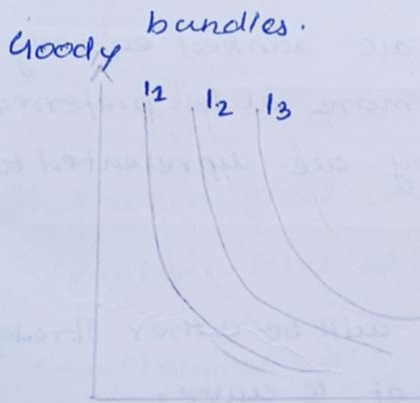
* The law is also known as Law of Substitution

Indifference Curve

An indifference curve connects point on a graph representing different quantities of 2 goods, points between which a consumer is indifference.

* Any combinations of the two products indicated by the curve will provide the consumer with equal levels of satisfaction, and the consumer has no preference for one bundle over another.

* the main use of indifference curves is the representation of potentially observable demand patterns for individual consumers over commodity bundles.



→ Developed by J.R Hicks & R.G.D Allen. Hence this is also known as Hicksian analysis.

→ IC curve is also called iso utility curve / equal utility curve.

There are many indifferent curves in this graph.

A collect of IC illustrated graphically is referred to as an 'indifference map.'

* slope of IC curve is MRS. A fall in MRS leads to convex shape of IC curve.

Properties :-

(1) Defined only in the non-negative quadrant of commodity quantities, i.e., the possibility of having negative quantity of good is ignored.

(2) Negatively sloped. As quantity consumed of one good increases, total satisfaction would increase if not offset by a decrease in the qty consumed of the other good. The negative slope of IC curve implies that MRS is always positive.

(3) All points on an IC curve are ranked equally preferred & ranked either more or less preferred than every other point. They are represented to be complete.

(4) Convex Shaped. IC curves will be either straight or bulge toward the origin of IC curve.

(5) Higher IC curve represents higher level of satisfaction.

(6) IC curves never cross each other.

Law of Diminishing Marginal Utility

Law of Diminishing Marginal Utility states that all else equal as consumption increases the marginal utility derived from additional unit declines.

* It is derived as the change in utility as an additional unit is consumed.

Units of commodity	Total Utility	Marginal Utility
1	25	25
2	42	17
3	55	13
4	55	0
5	50	-5

* Here it can be interpreted that marginal utility declines as the amount of commodity consumed increases.

* When total utility increases at a diminishing rate, MR declines.

* When total utility is maximum, MR is 0.

* When total utility decreases, MR becomes negative.

→ Marginal utility curve ~~is~~ itself is the demand curve. The demand curve is downward sloping because of the Law of Diminishing Marginal Utility.

→ Marginal Rate of Substitution (MRS) is the rate at which a consumer would be willing to forgo a specific quantity of one good for more units of another good maintaining same level of satisfaction.

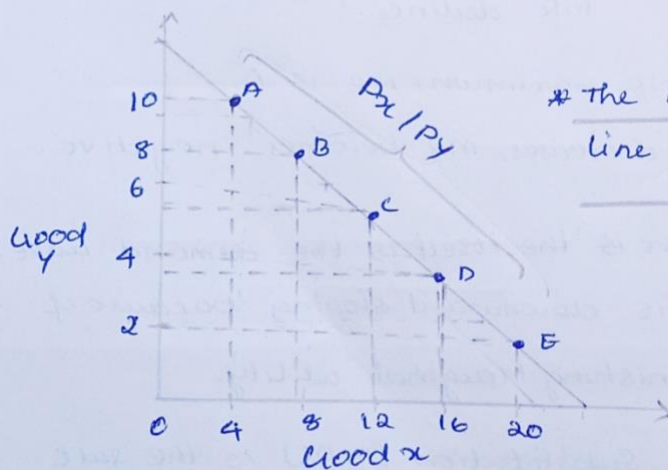
$$MRS = \frac{\text{Units of product A willing to sacrifice}}{\text{units of product B willing to gain}}$$

Budget Line

A budget line is the graphical representation of all possible combinations of 2 commodities that can be bought with the limited income of the consumer.

* the price of each of these combinations is equivalent to the income of the consumer.

* Budget line is called 'Price line'.



* The numerical slope of budget line is $\frac{P_x}{P_y}$.

Budget Set

Budget set or opportunity set includes all possible consumption bundles that someone can afford given the prices of goods and the person's income level.

* Assuming m the income of a consumer, x the quantity of product X in the ~~budget set~~ consumption bundles and y as the qty of product Y ,

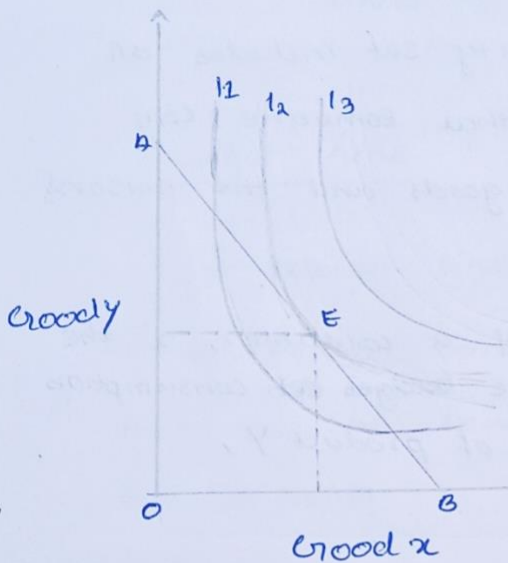
$$\underline{(x, y) \geq m}$$

Consumer's Equilibrium Using Budget Line

Analysis

Consumer's equilibrium refers to a situation, in which a consumer derives maximum satisfaction, with no intention to change it and subject to given prices and his given income. The point of maximum satisfaction is achieved by studying Indifference map & budget line together.

* Budget line is tangent to IC curve



* The point where the Budget line AB intersects IC curve I_2 is the point of maximum satisfaction or consumer equilibrium.

* Here $MRS_{xy} = P_x / P_y$

* MRS continuously falls to give IC curve its concave shape.

→ In case of I_1 , satisfaction is comparatively less. Although satisfaction is higher in I_3 , it is unattainable with the current income of consumer.

Revealed Preference Theory

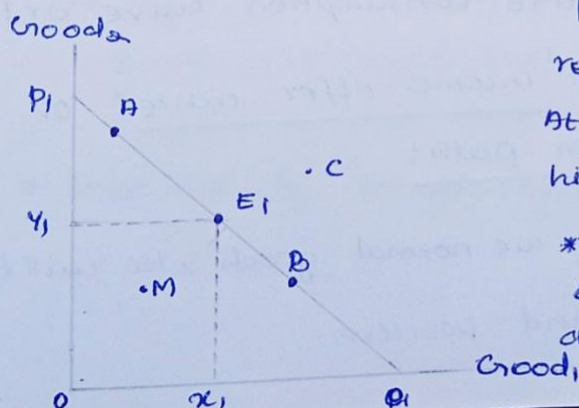
Revealed Preference theory proposed by Paul A. Samuelson is a method of analyzing choices made by individuals, mostly used for comparing the influence of policies on consumer behaviour.

* Revealed preference models assume that the preferences of consumers can be revealed by their purchasing habits.

* The theory has its base in Ordinal Utility.

Assumptions:-

- * There is only 2 goods in the market
- * Income & taste and of the consumer & price of the products are constant.
- * Based on ordinal utility analysis
- * Consumer is assumed to be rational. He prefers the bundles of goods that give him more satisfaction.
- * Transitivity. If in any situation $A \succ B$ & $B \succ C$, then $A \succ C$
- * Consistency of choice. If the consumer chooses bundle A in a situation where bundle B was also available to him. he will not choose B over A in any situation.
if $A \succ B$, then $B \not\succ A$
- * Samuelson's revealed preference theory is behaviouristic explanation of consumer's demand. It set a new dimension in studying various aspects of consumerism by shifting from psychological to behaviouristic explanation.



P_1 is the Price line. X axis represents Good₁ & Y axis Good₂.
At point E_1 , $Y_1 = X_1$. This is also his equilibrium point.

* At M, satisfaction will be less so the consumer tend to avoid it.

* At A qty. of Y will be more but he has to sacrifice some units of X.

* At B, satisfaction from X will increase but some units of Y must be forgone.

* At M, satisfaction will be higher even more than E, but it is not feasible for the consumer due to limited income.

Income Consumption Curve

When there is an increase in the income of the consumer, his budget line shifts to the right. Increase in income enables the consumer to move to higher and higher IC curves & choose a new optimum bundle of x_1 & x_2 .

→ The locus of successive optima (equilibrium) points is the income consumption curve or ICC.

* ICC is also called 'Income offer curve' or 'income expansion path'.

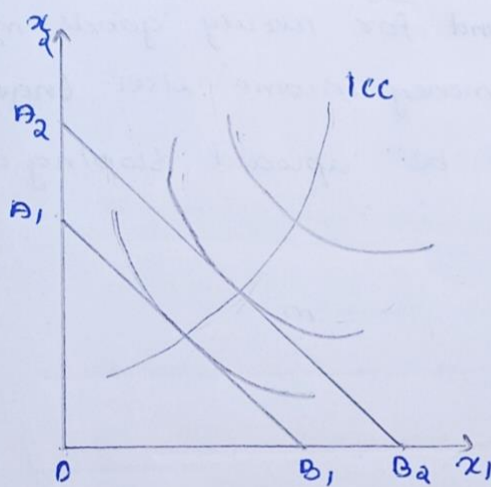
* If both x_1 & x_2 are normal goods, ICC will be upward sloping and positive.

* If we restrict ourselves to x_1 & consider the optimal choice at each set of prices & income we get demand function for x_1 .

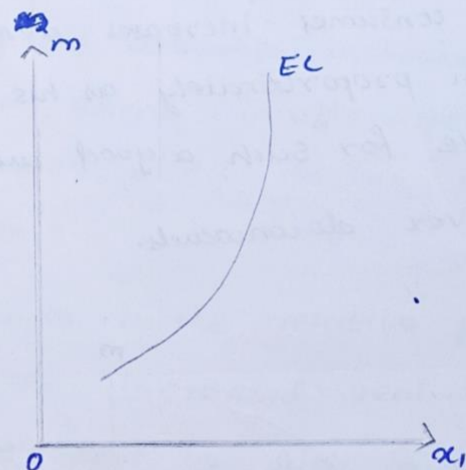
That is $x_1 = f_1(P_1, P_2, m)$.

$P_1 = P$ of good 1
 $P_2 = P$ of good 2
 $m = \text{income}$

Engel curve.



(a) ICC



(b) Engel curve

keeping P_1 & P_2 constant and demand changes as income changes, we can arrive at engel curve.

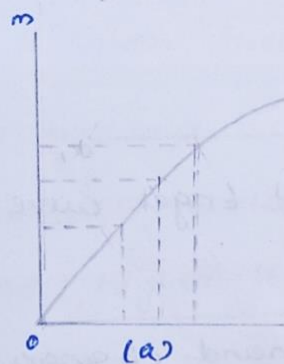
→ Engel curve is essentially an income demand curve. It shows the demand for one good as a function of income, keeping all prices constant.

* Proposed by Ernest Engel

→ For normal goods, Engel curve has a positive gradient. As income increases, the qty demanded increases. It has a positive slope.

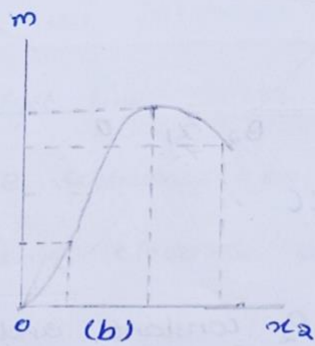
→ In case of inferior goods, Engel curve has a negative slope. As income increases, consumers buy less of the inferior goods as they can buy better products.

→ The consumer increases demand for luxury goods more than proportionately as his money income rises. Engel curve for such a good will be upward sloping and convex downwards.



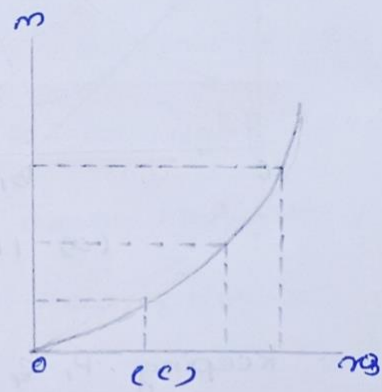
Normal goods

- * upward slope
- * concave to x axis



Inferior goods

- * negative slope
- * gradually sloping downwards



Luxury goods

- * upward sloping
- * convex to the x axis.

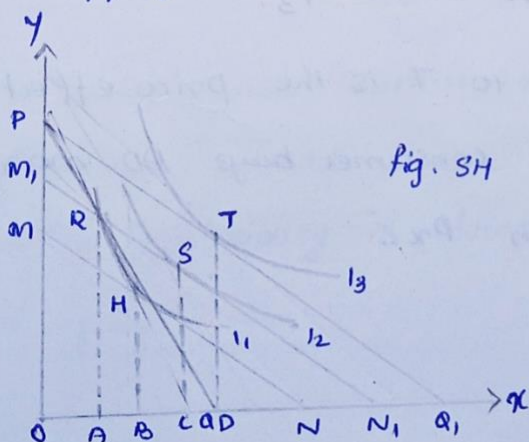
Hicks & Slutsky Models of Substitution

Hicks and Slutsky separate the income and substitution effects of the price effect in different ways.

→ According to Hicks when the price of x falls, the real income of the consumer increases and he remains at the same indifference curve through the substitution effect on the basis of 'compensating variation'.

This is due to changes in the relative prices of x and y so that the increased real income of the consumer is spent in such a manner that he is neither better off nor worse off than before.

* He moves along the same IC curve from one point of equilibrium to other through substitution effect.



→ Slutsky substitution effect tells that with the fall in price of good x , the consumer spends his increased income in such a manner ~~that~~ as to buy the original quantities of A & Y if he so desires and there's no change in his apparent real income.

But the substitution effect takes place when he moves to the higher indifference curve.

Figure SH explains the separation of income & substitution effects of the price effect both in terms of the Hicksian method & Slutsky method in case of normal goods.

* PQ is the original budget line.

R is the equilibrium point on I_1 , at which OA of x & RA of Y are bought.

* when P_x falls, budget line extends to PQ_1 & consumer moves to T on I_3 .

* Movement from R to T is the price effect which shows that consumer buys AD more of x due to fall in P_x .

* The line MN is drawn \parallel to PQ, so that the consumer is at the same real income level on the I_1 at H of MN.

* Movement from $R \rightarrow H$ on I_1 measures substitution effect. As a result, consumer buys ~~more~~ more of x . Remaining increase of BD of x is result of income effect from H to T.

* The movement from $R \rightarrow S$ is the Slutsky substitution effect. As a result, consumer buys Δ more of x & movement from $S \rightarrow T$ or CD of x is income effect.

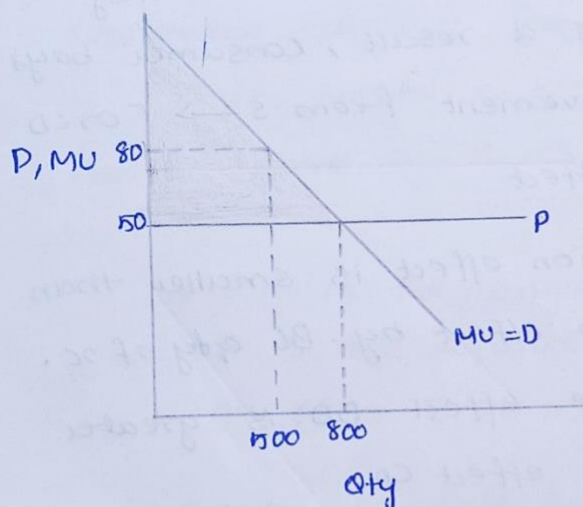
\rightarrow Hicksian substitution effect is smaller than Slutsky substitution effect by BC qty of x . The Hicksian income effect BD is greater than Slutsky income effect CD.

Consumer's Surplus

Consumer's Surplus is the additional benefit a consumer would receive when the price he paid for a commodity is lower than what he was willing to pay.

Alfred Marshall defines consumer surplus as "excess of price that a consumer would be willing to pay rather than go without a commodity over that which he actually pays."

* It reflects the amount of utility or gain consumers receive when they buy products and services.



Limitations

- (1) Consumer surplus can't be measured accurately
- (2) The level of satisfaction can vary with person to person
- (3) It is not possible to measure excess benefit ^{from} ~~since~~ essential goods since the consumer may spend his

entire income rather than go without it.

→ The concept of consumer surplus is derived from the law of diminishing marginal utility.

The concept first came to light when James Tobin introduced a way to measure community welfare in 1944.

(4) Modern economists argue that the concept is flawed and outdated making it unfit to the current world.

Price Consumption Curve

Price consumption graph shows how a consumer's consumption choices change when price of a commodity changes. It is plotted by connecting the points at which budget line touches the relevant maximum utility IC curve.

→ It shows the relation b/w change in price of a commodity and demand by a consumer.

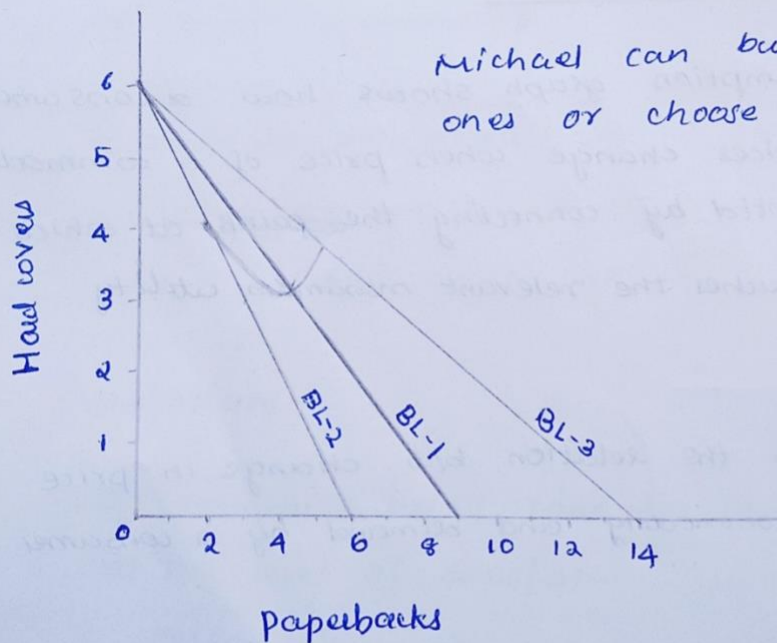
eg:-

Michael has a monthly income of \$3,000, 7% of which he wants to spend on books. He wants to decide how many books he should buy in hardcover & how many in paperback. A paperback costs \$20 & a hardcover costs \$30.

Consumption budget of Michael = \$210 (7% of 3,000)

Paperbacks he can buy with \$210 = 9 (0 hardcovers)

hardcovers " = 6 (0 paperbacks)



Michael can buy either of the ones or choose another combination.

If the price of paperbacks falls to \$15, Michael can now purchase more paperbacks (14) with the same budget.

If the price increases to \$20, Michael can no longer afford the same number of backpacks. These price movements cause Michael's budget line to move along the x-axis.

* When paperbacks become more expensive, Michael's budget line rotates from BL-1 to BL-2. ~~and the~~ This causes him to substitute more hardcovers for paperbacks such that his consumption choice becomes point A.

When paperbacks become cheaper, and the budget line moves from BL-1 to BL-3, consumption bundle switches from B to C.