ECONOMICS

MODULE - II

* Indifference Curve (IC)
↳ Defined as the locus of various combinations of quantities of two goods, which provides the same level of satisfaction.
↳ for maintaining the level of satisfaction of a consumer, if we are reducing the amount of one good, we have to increase the amount of other good.

• Indifference Map
↳ Combination of set of a number of indifference curve representing different levels of satisfaction & is care of preference of a consumer.

• If commodities X and Y are perfect substitutes, then the indifference graph will be linear in nature.

• Properties of Indifference Curve

(1) Negative / Downward slope
↳ To gain some amount of X, we have to give up Y.

(2) Must be convex at origin
↳ MRS decreases on increasing the amount of good 'x' and decreasing the amount of good Y.

(3) Higher IC represent higher levels of satisfaction

(4) Two IC's never intersect one another
↳ Points of intersection are inconsistent & determination of satisfaction on those points are not possible.

(5) IC never touches both the axes
↳ As the consumer wants both commodities although in smaller or larger quantities. So, it can never be zero.

* Budget Line
↳ Represents the locus of the different combination of two commodities that can be consumed so that the total income exists.
↳ To know the income pattern / level of consumer.

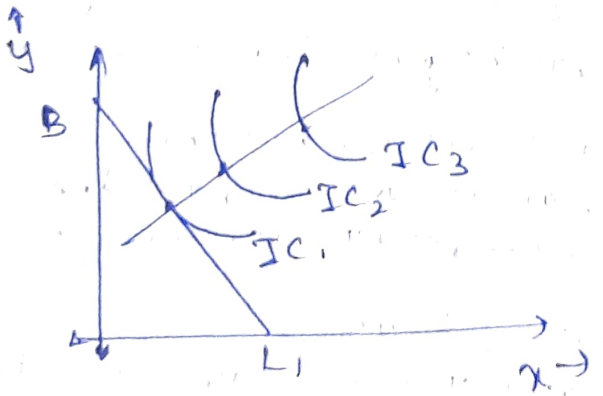
→ Determinants of budget line
↳ price of the commodity
↳ Income of the commodity

• Consumer's Equilibrium Point
↳ Situation where a consumer spends his income purchasing one or more commodities so that he gets maximum satisfaction and has no urge to change the level of consumption.

⊛ The different condition for consumer's eqm of the indifference curve must be convex to the origin at the point of eqm. It means, the marginal rate of substitution must decrease at the tangency point of budget line & IC

• Price Consumption Curve (PCC) {Price effect}.
↳ Locus of various consumer's eqm. point which are obtained due to change in price of a commodity.

$$\text{Price effect} = \left(\frac{-\partial q_x}{\partial P_x}\right)$$



• Income Consumption Curve
↳ Locus of different consumer's eqm point when are obtained due to change in income level of the consumer.

$$\text{Income effect} = -\frac{\partial q_x}{\partial I}$$

* Substitution Effect
change in quantity consumption of a commodity due to change in relative value of substituted good, keeping the real purchasing power same.

* Revealed Preference Theory
↳ given by Samuelson
Assumption: A consumer, while making purchase decisions, evaluate a number of alternatives and chooses the product which best satisfies his needs, given the budget constraint.

(1) Rationality: when a consumer prefers larger quantities of a commodity.

(2) consistency:
(3) Transitivity
(4) Revealed Preference Axiom

* Revealed preference Axiom
↳ state that subject to a given budget constraint, if a consumer select a particular bundle Z. Then, the selected bundle subjected to this budget constraint will provide the highest possible satisfaction.

* Risk and uncertainty

Risk: Situation where outcome of a decision is not certain but probability of each possible outcomes can be calculated.

Uncertainty: Situation where outcome of decision is not certain and probability associated with possible outcomes cannot be calculated.

RISK

→ The probability of winning or losing something is known as risk

→ Can be measured

→ Chances of outcomes are known

→ Countable

→ probabilities assigned

UNCERTAINTY

→ Uncertainty is a situation where the future events are NOT known

→ cannot be measured

→ Chances of outcomes are unknown

→ uncountable

→ probabilities NOT assigned

* Types of Risk Attitude

① Risk Averse

→ Prefers a certain income as compared to a risky income with same level of expectation values

→ MU of money declines

② Risk Lover

→ prefers risk taking tasks for maximum satisfaction and risk, taking & risking income over certain income.

→ MU of money rises

③ Risk Neutral

→ MU of risk neutral is constant

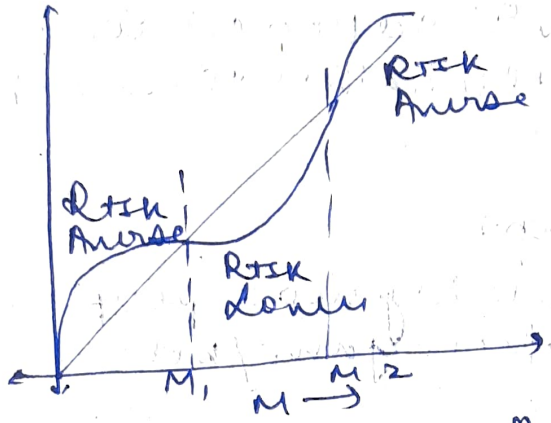
• Causes of Uncertainty

1> Nature of games
2> Investment
3> Lack of perfect information

Consumer Choices Under Risk

1) The Friedmann-Savage hypothesis
2) The Neumann-Morgenstern Method
3) Markowitz hypothesis
4) The Bernoulli hypothesis

1) The Friedmann-Savage hypothesis



→ In a lottery, a person is either a risk lover, risk averse or risk neutral.

"For most people, the M.U. of money income diminishes upto certain level. It increases from that middle level to a certain high level of money income and thereafter at a very high income, it again diminishes".

2) Neumann-Morgenstern Method

"The consumer should state his preference or indifference for choosing two events out of which one is a certain event and another one of risky event where outcomes are associated with probabilities.

ASSUMPTIONS:

1) Individual behaves in risky situations in order to maximize expected utility.
2) Consumer choices are transitive.
3) Higher probability of winning.

→ Measures expected utility from the monetary gain:
Expected monetary value: $\pi(w) + (1-\pi) f$

3) Markowitz hypothesis
↳ Similar to Friedmann-Savage hypothesis i.e., instead of absolute value of income of a person.
↳ Person's behaviour towards insurance and gambling is same whether poor or not.

4) Bernoulli's hypothesis
↳ The individual will take decision on the basis of exchange utility rather than expected monetary value.

* St. Petersburg Paradox
↳ refers to problem why most people are unwilling to participate in a fair game/bet.

* Fair Game: Situation where an individual face the situation involving variables outcome in which the expected value of the gamble is equal to income with uncertainty.