Lecture

IAQS | INSTITUTE OF ACTUARIAL & QUANTITATIVE STUDIES

Class: M.Sc. Sem 2

Subject : Business Economics

Chapter: Unit 1 Chapter 5

Chapter Name: Consumer Behaviour

Today's Agenda

1. Utility
2. Features of Utility
3. Total Utility
4. Marginal Utility
5. Total Utility and Marginal Utility
6. Diminishing Marginal Utility (DMU)
    1. Law of DMU
    2. Assumptions
    3. Exceptions
    4. Criticisms
    5. Significance of Law
7. Indifference analysis
    1. Indifference curve

1 Utility

What do you understand by the term utility?
Could you state some real-life examples?

1 Utility

In Economics, the want satisfying power of a commodity is called “utility”.

- Utility – Usefulness
- Consumption of goods and services depends on utility.
- Every product possesses power to satisfy human wants.
- This inner quality of a commodity which satisfies human wants is called as utility.

1 Utility

John and Johnny both go to a restaurant and order the same drink.
An economic student sitting on the next table thinks that they both will have the utility from that drink
Do you agree with the thoughts of the student? Why?

2 Features of Utility

2.A Relative concept

- Utility of a commodity changes from time to time and place to place

- Example – Visiting Goa has more utility in summer than in winter/monsoon

2 Features of Utility

2.B Subjective concept

- Utility is a subjective concept as the utility of a commodity differs from person to person on account of differences in tastes, preference, habits, surroundings, age, occupation etc

- Example – Some people experience more utility by watching Taarak Mehta ka Ooltah Chashmah than by watching FRIENDS

2 Features of Utility

2.C Ethically Neutral

- Example – A gun has utility for a soldier as well as a terrorist.

2 Features of Utility

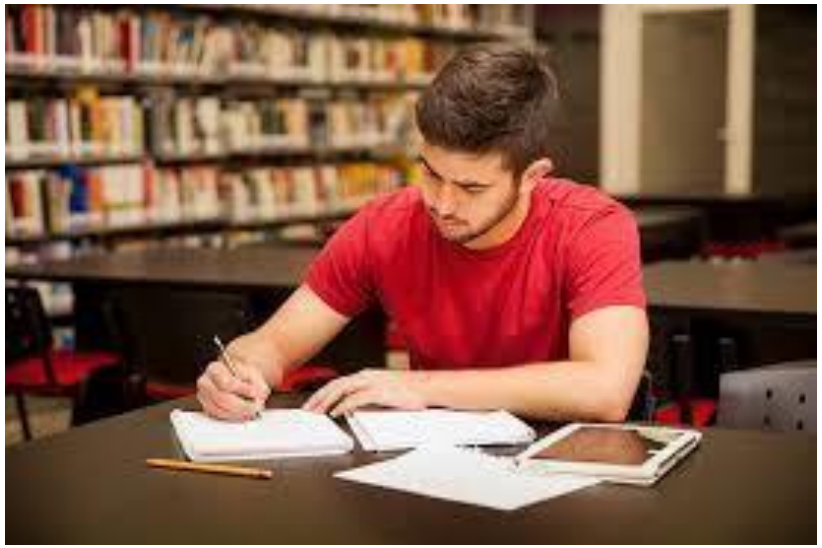
2.D Utility differs from Usefulness

- Example – Cigarette and liquor are harmful to health, but if they satisfy the want of an addict then they have utility for him.

2 Features of Utility

2.E Utility differs from pleasure

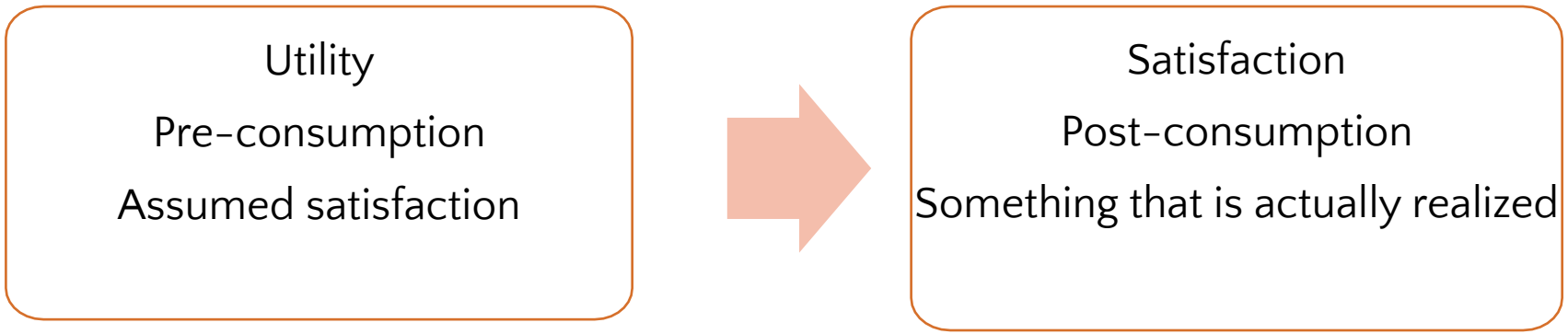
- Example – A textbook has utility for a student but he may not derive pleasure from reading it.



2 Features of Utility

2.F Utility differs from satisfaction

- Utility is pre-consumption and satisfaction is post-consumption.
- Utility is assumed satisfaction but satisfaction is something that is actually realized.



2 Features of Utility

2.G Measurement of Utility is Hypothetical

- Example – It cannot be said that “Red Velvet” Cake has 5 utility and “Chocolate” Cake has 10 utility.

2 Features of Utility

Utils

- A hypothetical unit of measurement of utility that is commonly used by economists to present hypothetical information about utility and consumer demand theory.
- The term util is a convenient way to discuss utility and the satisfaction of wants and needs that consumers obtain from using a good.
- The util measurement unit was developed as a convenient way to illustrate and discuss concepts such as total utility, marginal utility, and the law of diminishing marginal utility.

2 Features of Utility

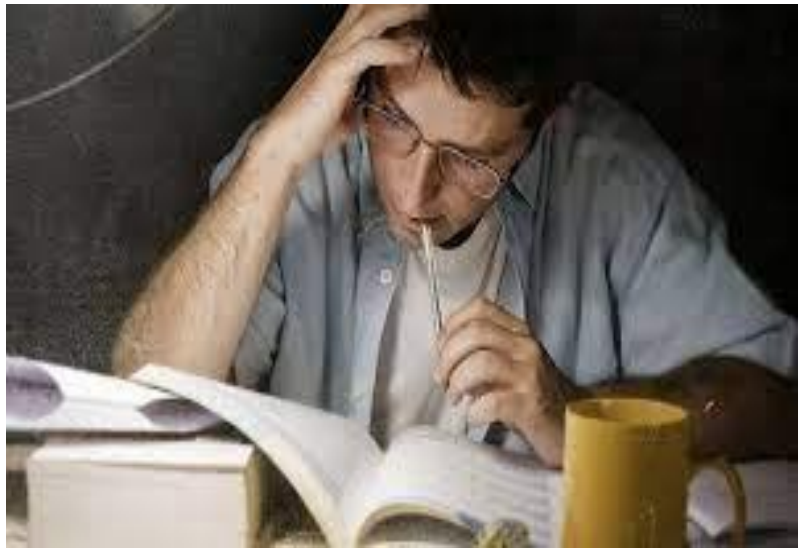
2.H Utility is Multi-purpose

- Example – Electricity has multiple use.

2 Features of Utility

2.I Utility depends upon the intensity of wants

- Example – The utility of notes is higher when exams are closer as the want for notes is intense.



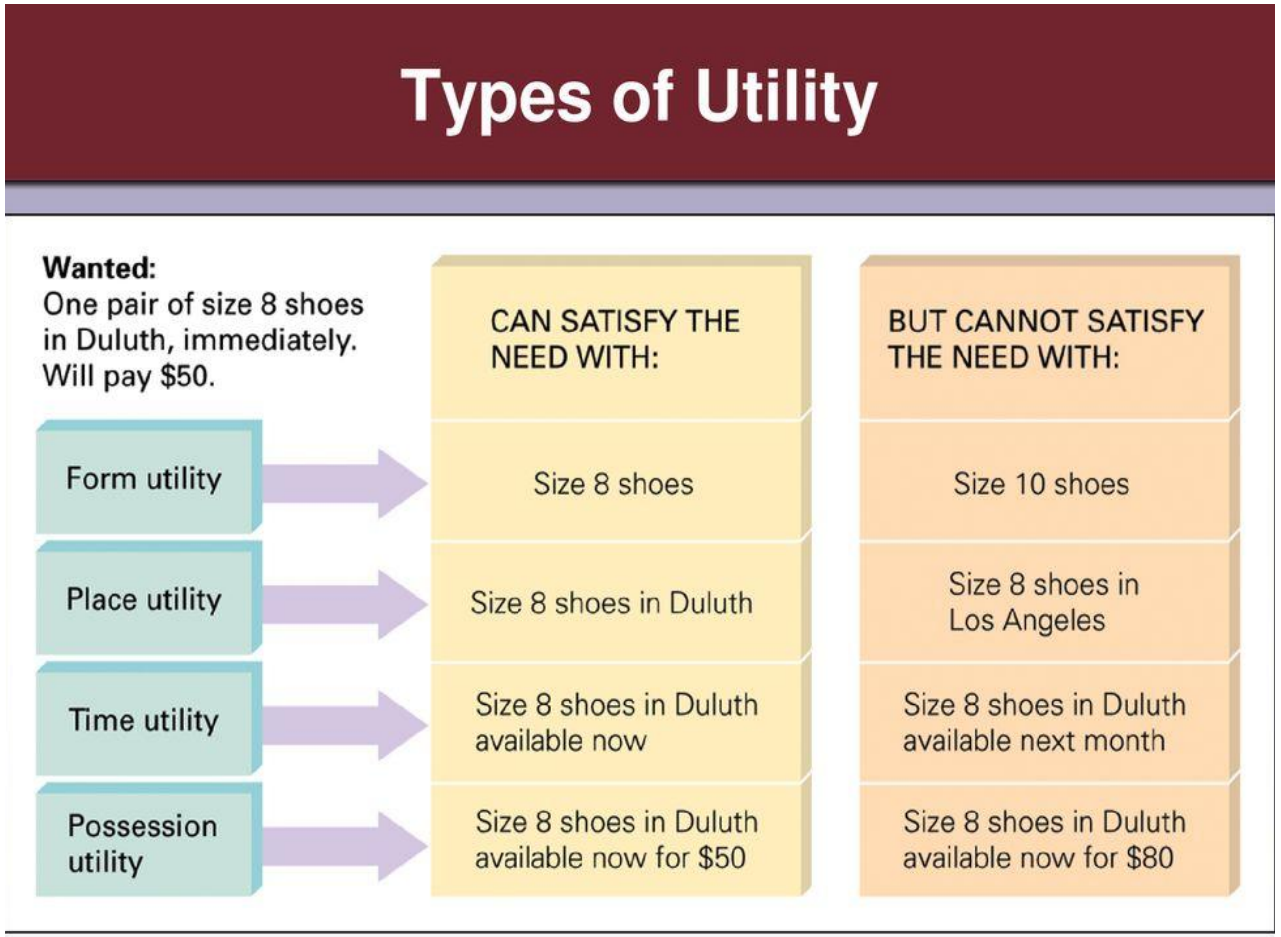
2 Features of Utility

2.J Utility is basis for Demand

- Example – An uneducated person will not demand a book as it has no utility for him. A student will demand a book as it has utility for him.

Types of Utility

‘Four types of Utility’ – Article



Questions

1. What is the definition of utility?

2. Which of the following statement is correct in relation to utility?

I. Utility of a good doesn't change from consumer to consumer.

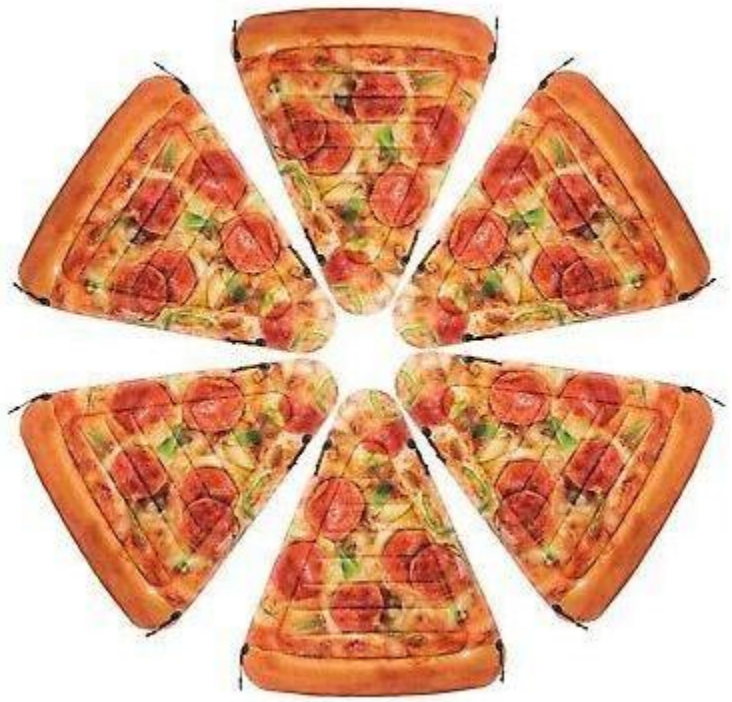
II. The utility of a good remains constant even for different consumers on account of changes in the intensity of the want to be satisfied by its use.

III. The utility of a good is not to be equated with its usefulness.

Select the correct answer from the options given below –
A. II & III B. II only C. I,II & III D. III only

3 Total Utility

- Example – If there are 6 slices of Pizza, then total utility is the sum total of the utilities that is derived from consuming all the 6 slices of Pizza (one after the other) at a point of time.
- Lets assume you are hungry & you want have Pizza
- When you have 1st Piece of pizza you get 10 utils (Because you are hungry)
- When you have 2nd Piece you get total 18 utils & so on
- But when you have 5th Piece total utility remains same (Because you are not as hungry as earlier)
- When you have 6th Piece total utility decreases (Because your urge of having 6th Piece is almost negligible as your hunger is satisfied with 5 pieces)

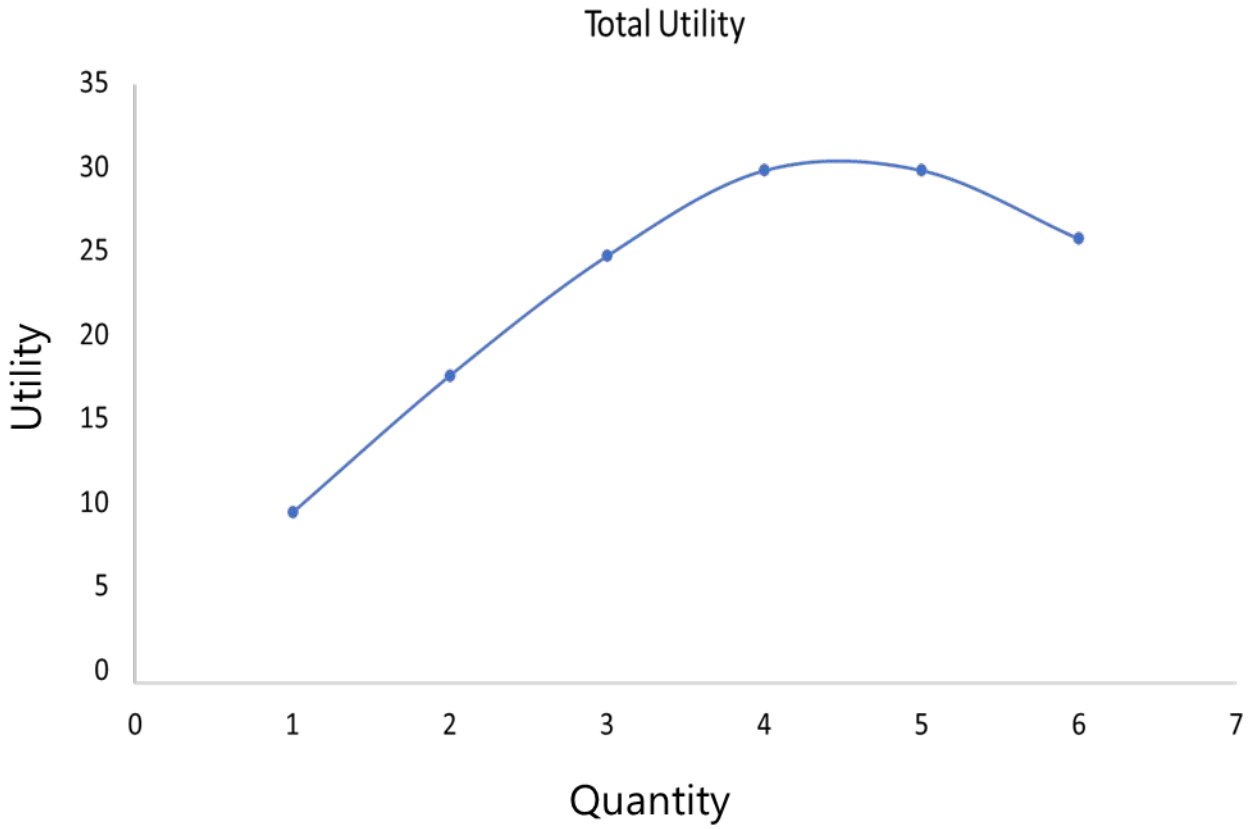


3 Total Utility

What will be the shape of the total utility graph with quantity consumed on X-axis and utility on Y-axis?

3 Total Utility

Quantity (Piece)	Total Utility
1	10
2	18
3	25
4	30
5	30
6	26



4 Marginal Utility

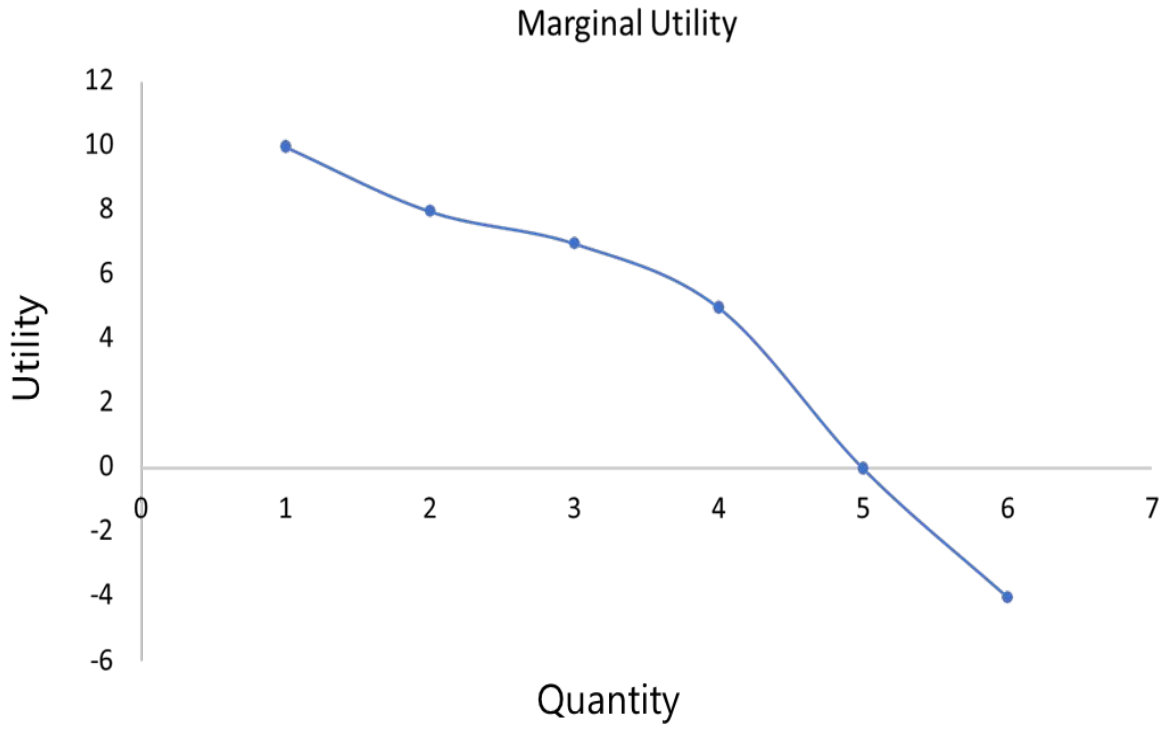
- Example – Utility received by having each & every piece of Pizza
- Marginal Utility is calculated as
  MU = T(n) – T(n–1)

4 Marginal Utility

What will be the shape of the marginal utility graph with quantity consumed on X-axis and utility on Y-axis?

4 Marginal Utility

Quantity (Piece)	Total Utility	Marginal Utility
1	10	10
2	18	8 (18-10)
3	25	7 (25-18)
4	30	5 (30-25)
5	30	0 (30-30)
6	26	-4 (26-30)

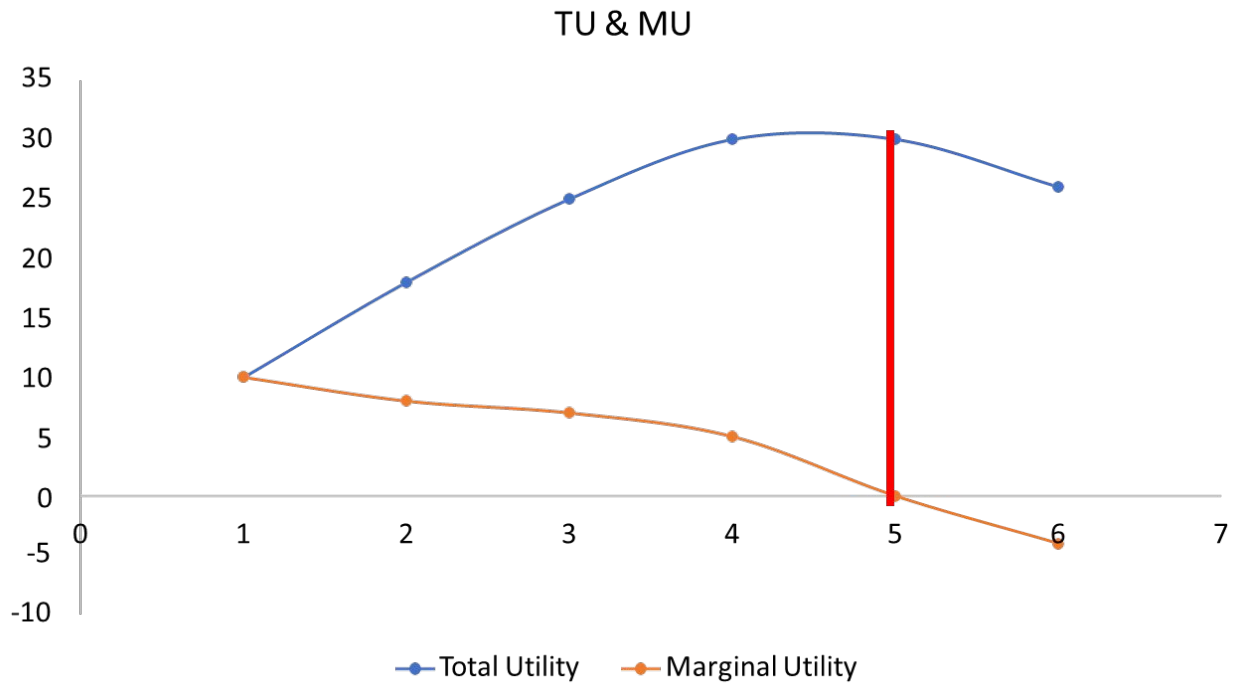


5

Total Utility and Marginal Utility

Relationship between Total & Marginal Utility

Quantity (Piece)	Total Utility	Marginal Utility
1	10	10
2	18	8
3	25	7
4	30	5
5	30	0
6	26	-4



5 Total Utility and Marginal Utility

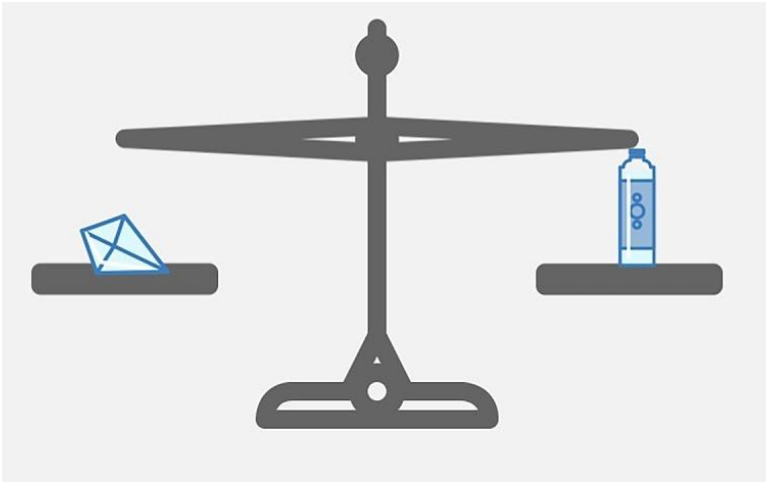
Total Utility and Marginal Utility both can go negative.
Do you agree with the above statement? Why?

5 Total Utility and Marginal Utility

Diamond-Water paradox (Paradox of value)

- The diamond–water paradox (also known as the paradox of value) is the contradiction that, although water is on the whole more useful, in terms of survival, than diamonds, diamonds command a higher price in the market.

- Adam Smith in the 1760s gave the example of water and diamonds. 'How is it', he asked, 'that water which is so essential to human life, and thus has such a high "value-in-use", has such a low market value (or "value-in-exchange")? And how is it that diamonds which are relatively so trivial have such a high market value?'



'The paradox of value' - Video

6.1 Law of Diminishing Marginal Utility

Alfred Marshal later on restated this law in the following words: “The additional benefit which a person derives from an increase of his stock of a thing diminishes with every increase in the stock that already has”.

- As the consumers acquires or consumes more and more units of a commodity, the marginal utility derived from every successive unit goes on declining.

‘Introduction to Consumer choice’ – Video

6.2 Assumptions

6.2.A Reasonability

- A thirsty person will consume a glass of water and not a jar of water. Similarly, he will not consume water in a teaspoon.

6.2.B Cardinal Measurement

- Utility is a psychological concept and therefore it is not measurable cardinally i.e. it can be expressed in numbers.

6.2.C Homogeneity

- If the commodity being consumed is a Cadbury Dairy Milk, then all the other units consumed also should be Cadbury Dairy Milk only. The consumer cannot change to Dairy Milk Silk.

6.2 Assumptions

6.2.D Single want

- It is assumed that the commodity is used to satisfy only a Particular want.

6.2.E Divisible

- If the commodity being consumed is a Cake, then Cake should be divisible in small parts

6.2.F Constancy

- If the commodity being consumed is a Cake, then Cake should be divisible in small parts

6.2.G Continuity

- After one unit of the commodity is consumed, the consumer cannot consume the next unit of the commodity after 2-3 hours or the next day. The consumption should be back to back.

6.3 Exceptions

6.3.A Money

Why Money is Biggest Exception?

1. Money does not have a single use and therefore it violates one of the basic assumptions of the law.

2. Secondly, the MU of money for a rich person reduces as his stock of money (bank balance) keeps increasing.

3. It may be noted that the TU of money can never decrease and hence MU of money cannot be zero or negative. Even the richest person will never have zero or negative utility of money

Example – Mr. Mukesh Ambani will not tear or throw away a note of Rs. 10 because that note still has utility for him.

6.3 Exceptions

6.3.B Addiction

Why Addiction is Exception?

1. The MU of Addiction keeps increasing as a Addicted person keeps having more of it.

2. However, the Addicted person cannot be considered to be rational. The assumption of rationality is violated

6.3 Exceptions

6.3.C Hobbies

Why Hobbies is Exception?

1. A person having a hobby gets more pleasure when he collects more of it. In other words, the MU keeps increasing. Hence it can be said to be an exception to the law.

2. However, the person does not collect the same thing and the assumption of homogeneity & Continuity is violated.

6.3 Exceptions

6.3.D Misers

Why Misers is Exception?

1. The MU of money increases for a miser as the stock keeps increasing.
2. However, even here, the assumption of rationality is violated

6.3 Exceptions

6.3.E Power

Why Power is Exception?

1. A person who has power / influence, keeps wanting more of it. The MU of power keeps increasing as the person continues to get more power. The greed for power does not end.

2. But assumption of rationality is violated.

6.4 Criticisms

1. Unrealistic Assumptions
2. Cardinal Measurement
3. Indivisible Goods
4. Constant Marginal Utility of Money
5. A single Want

'Criticisms of law of diminishing marginal utility' – Article

6.5 Significance of Law

1. Useful to consumer
2. Useful to Government
3. Basis of paradox of value
4. Basis of law of demand

Activity

Research and find out about significance of law of DMU and discuss each of the following points in detail

1. Useful to consumer
2. Useful to Government
3. Basis of paradox of value
4. Basis of law of demand

6.5 Inference

1. MU > P = Intra marginal units
2. MU = P = Consumer's equilibrium
3. MU < P = Extra marginal units

where MU is marginal utility and P is price

Question

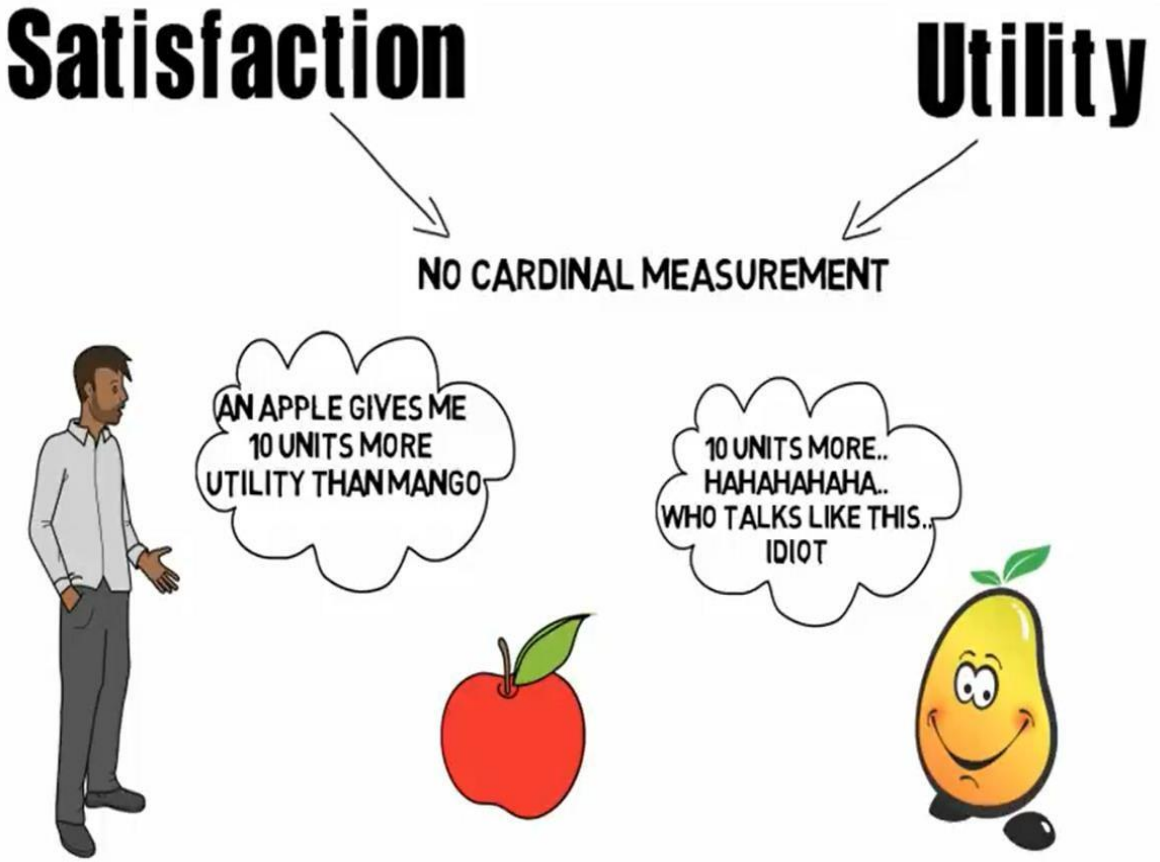
A decision is to be made between purchase/consumption of 2 products (apples and oranges).
Which of the following will be used for decision-making?
Total utility / Marginal utility / DMU

7.1 Indifference - concept

What do you understand by the term indifference curve?
Form your answers based on utility and satisfaction

7.1 Indifference curve

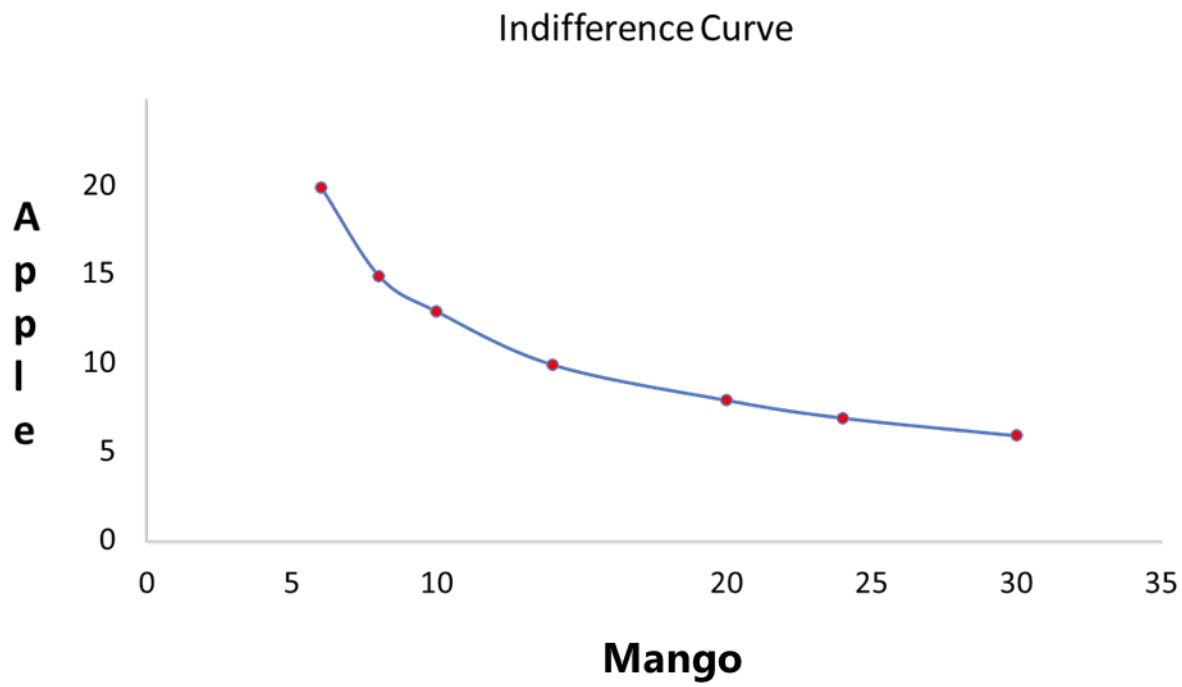
- To understand this the concept of Indifference analysis, utility & satisfaction is a base
- There is no tool of measurement of utility & satisfaction but for the sake of understanding we can give cardinal measurement to utility
- Assumption – Utility can be measured in cardinal terms (in numbers)



7.1 Indifference curve

Example - Dr. Strange go to super mart with 500 rupees & decided to purchase fruit where he wants to buy combination of apples & mangoes & try to maximises the utility

	Apple	Mango
Combination 1	30	6
Combination 2	24	7
Combination 3	20	8
Combination 4	14	10
Combination 5	10	13
Combination 6	8	15
Combination 7	6	20

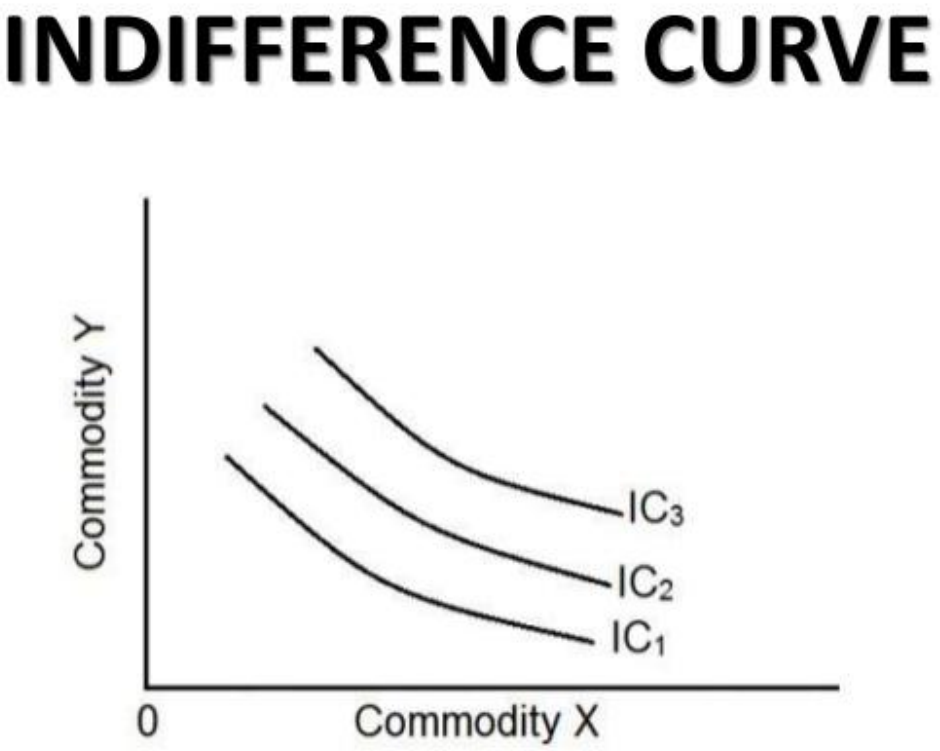


7.1 Indifference curve

What is Indifference curve?

- An indifference curve is a graph that shows a combination of two goods that give a consumer equal satisfaction and utility, thereby making the consumer indifferent.

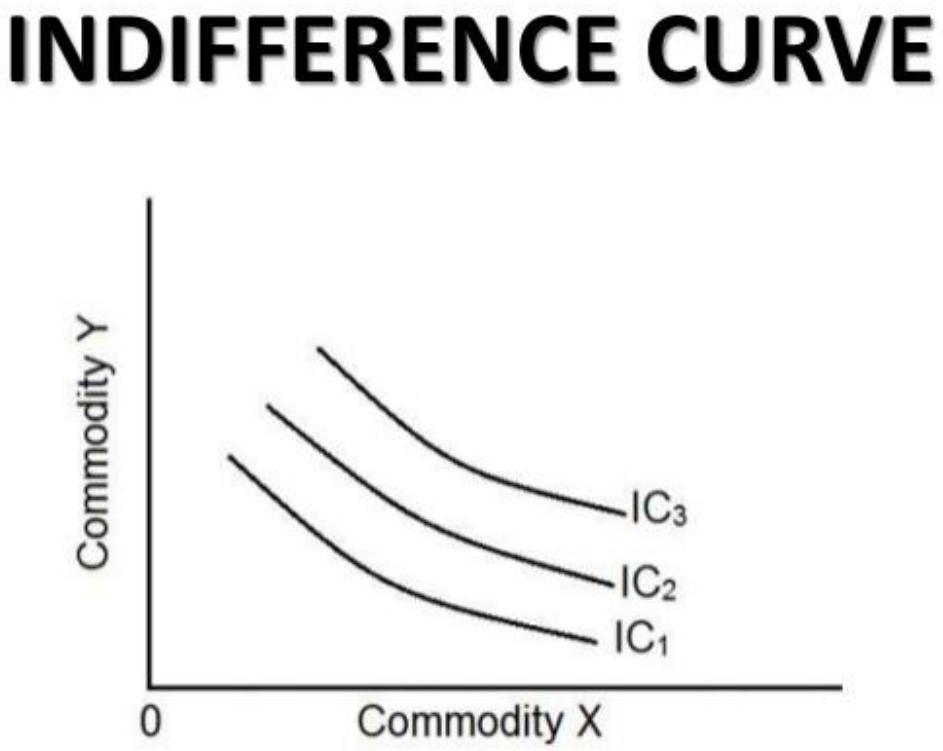
- The aim of indifference analysis, then, is to analyse, without having to measure utility, how a rational consumer chooses between two goods.



7.1 Indifference curve

Properties

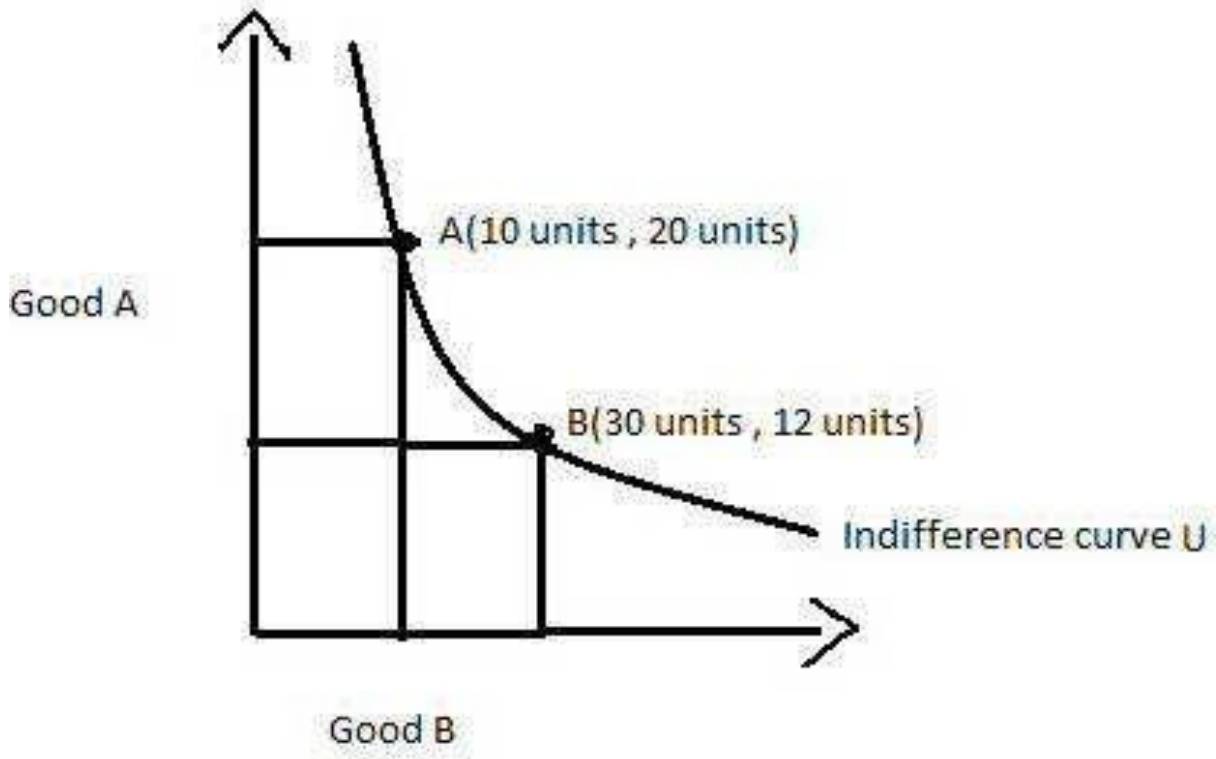
- Indifference curve slopes downwards and bend inwards
- An indifference curve farther from origin will have higher utility than another closer to the origin
- Two indifference curve cannot intersect each other
  Since each indifference curve represents a different utility value, an intersection concludes that at a single point we have 2 different utility values which is not possible



7.2 Marginal rate of substitution

- Every point on indifference curve shows different combination of goods

- Marginal rate of substitution (MRS) (between two goods in consumption) is the amount of one good (B) that a consumer is prepared to give up in order to obtain one extra unit of another good (A). (that is, the rate at which the consumer is willing to substitute one good for the other).



7.2 Marginal rate of substitution

The reason for a diminishing marginal rate of substitution is related to the principle of diminishing marginal utility that we looked at.

- This stated that individuals will gain less and less additional satisfaction the more of a good that they consume.
- This principle, however, is based on the assumption that the consumption of other goods is held constant.
- In the case of an indifference curve, this is not true. As we move down the curve, more of one good is consumed but less of the other. Nevertheless, the effect on consumer satisfaction is similar.

7.2 Marginal rate of substitution

- **Perfect substitutes**

If two goods X and Y are perfect substitutes, the indifference curve is a straight line with negative slope

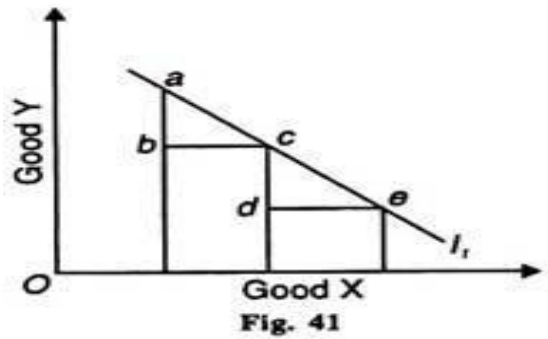


Fig. 41

- **Perfect complements**

If the two goods are perfect complements the indifference curve is right-angled or L shaped

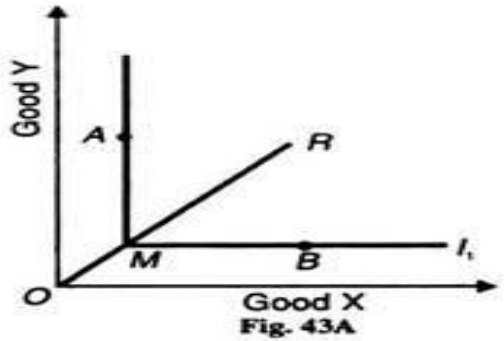


Fig. 43A

'Indifference curves' - Video

7.3 Relationship between MRS and MU

Consumption at any point yields equal satisfaction. Thus, the utility sacrificed by giving up one commodity must be equal to the utility gained by consuming other commodity.

	Apple	Mango
Combination 1	18	1
Combination 2	16	2

In other words, the marginal utility of an mango must be two times as great as that of an apple

$$\text{MRS} = \frac{MU\ X}{MU\ Y} = \text{slope of indifference curve (ignoring negative sign)}$$

From combination 1 to combination 2, Mr. Spoiled Brat is willing to reduce movie time of 5 hours to play games for 1 additional hour.
Calculate, for further consecutive combinations, the time in hours he is willing to reduce movie time to play games for 1 additional hour.

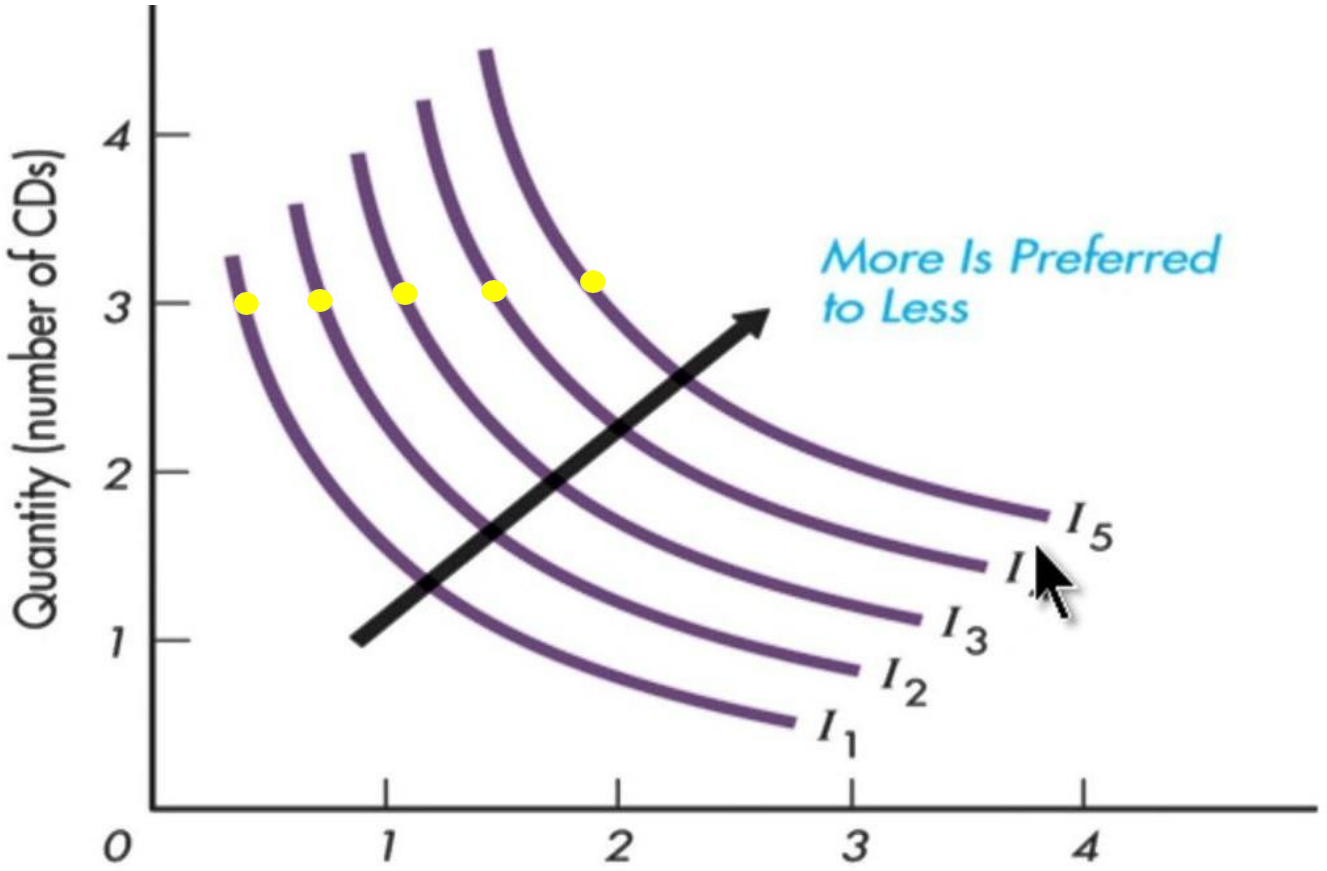
In Hours	**Movies**	**Games**
Combination 1	15	1
Combination 2	10	2
Combination 3	7	3
Combination 4	4	5
Combination 5	3	6
Combination 6	1.5	9
Combination 7	1	13

7.4 Indifference Map

- A graph showing a whole set of indifference curves. The further away a particular curve is from the origin, the higher the level of satisfaction it represents.

In graph

- Consumer having more unit of other commodity as the graph moves away from origin



8 Budget Line

- This is the other important element in the analysis of consumer behaviour.
- Whereas indifference maps illustrate people's preferences, the actual choices they make will depend on their incomes.
- The budget line shows what combinations of two goods you are able to buy, given
  1. your income available to spend on them and
  2. their prices.

8 Budget Line

Example – Dr. Strange go to supermart with rupees 100. He thinks that if he spend rupees 100 he should gain atleast 200 utility. He decided to purchase apple & mangoes

Fruit	Price	Utility
Apple	5	10
Mango	10	20

For a total price of 100 giving utility 200, One combination is 10 apples and 5 mangoes
Can you think of other combinations of apples and mangoes, in whole numbers only, with an exact budget of 100 and an exact utility of 200?
How many combinations are possible?

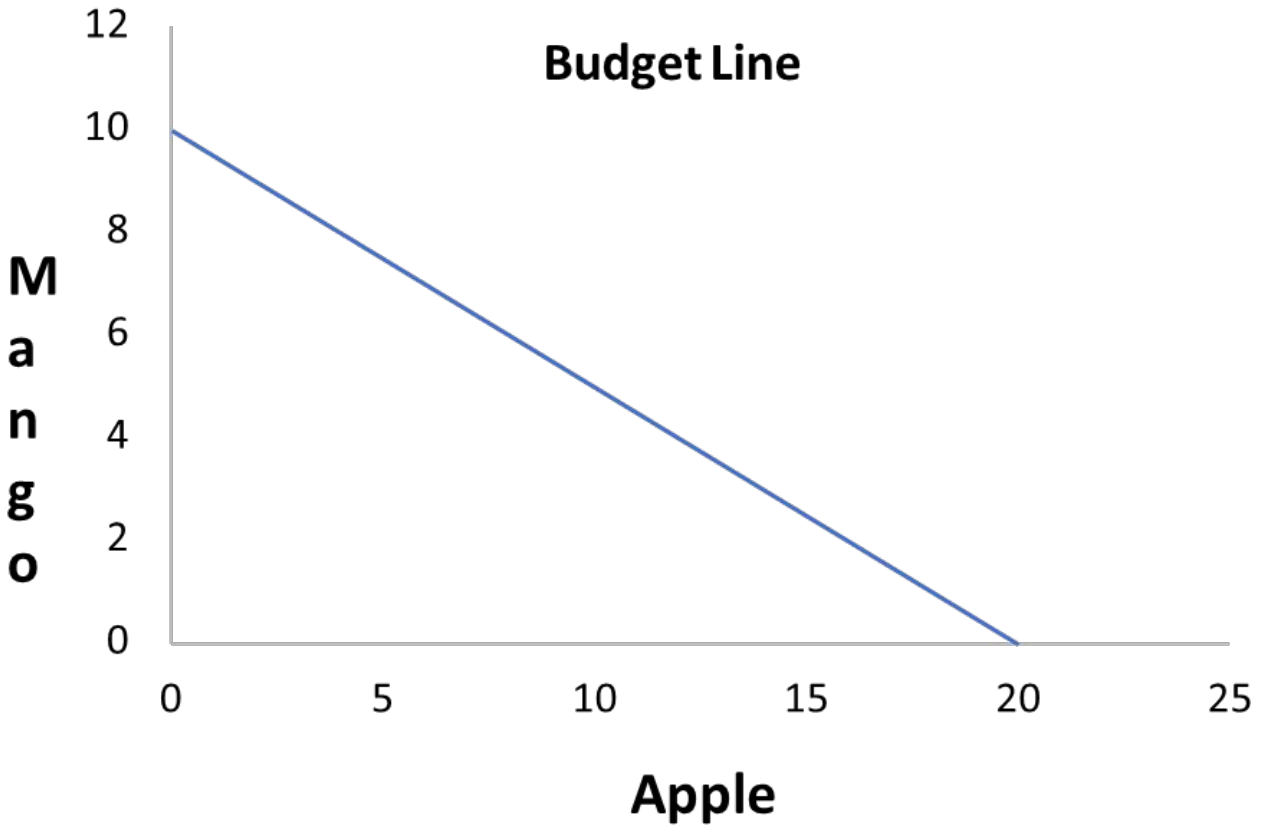
8 Budget Line

Combinations

	Apple	Mango	Total Spending	Total Utility
Combination 1	20	0	100	200
Combination 2	18	1	100	200
Combination 3	16	2	100	200
Combination 4	14	3	100	200
Combination 5	12	4	100	200
Combination 6	10	5	100	200
Combination 7	8	6	100	200
Combination 8	6	7	100	200
Combination 9	4	8	100	200
Combination 10	2	9	100	200
Combination 11	0	10	100	200

Fruit	Price	Utility
Apple	5	10
Mango	10	20

8 Budget Line



8 Budget Line

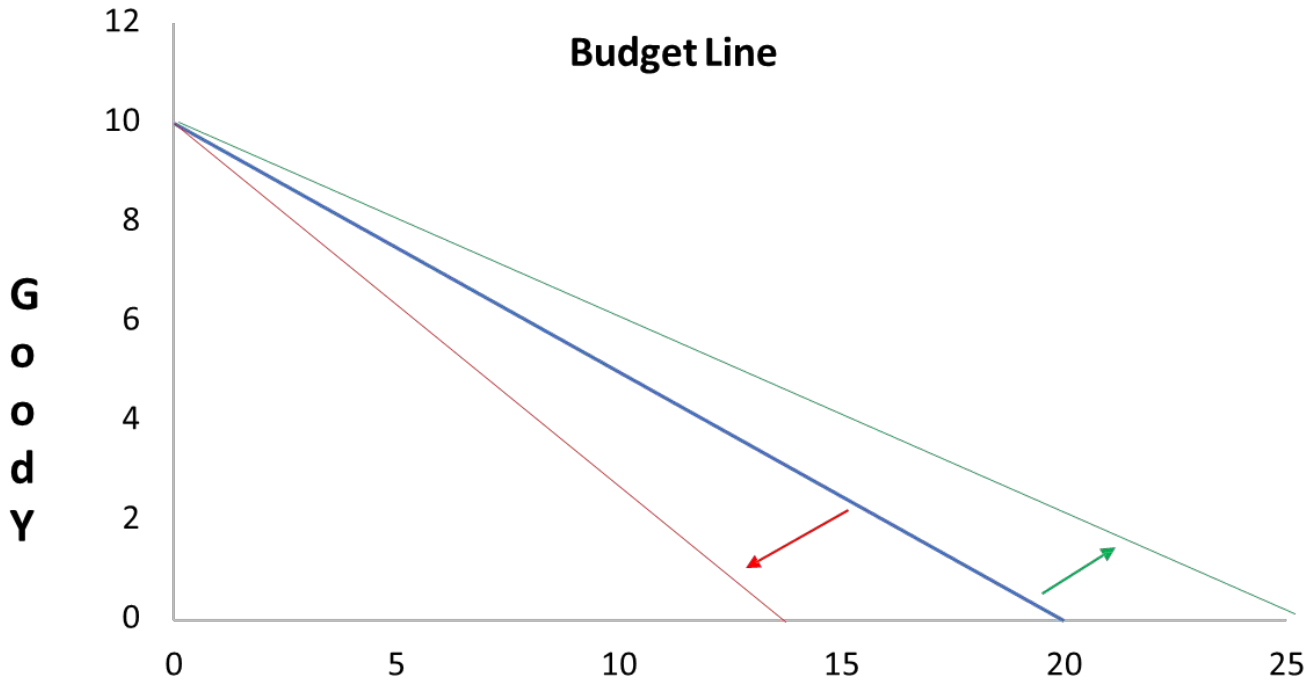
As shown in graph

- If budget increases the budget line will shift to the right (Green line) & if budget decreases the line will shift to left (Red line)

8 Budget Line

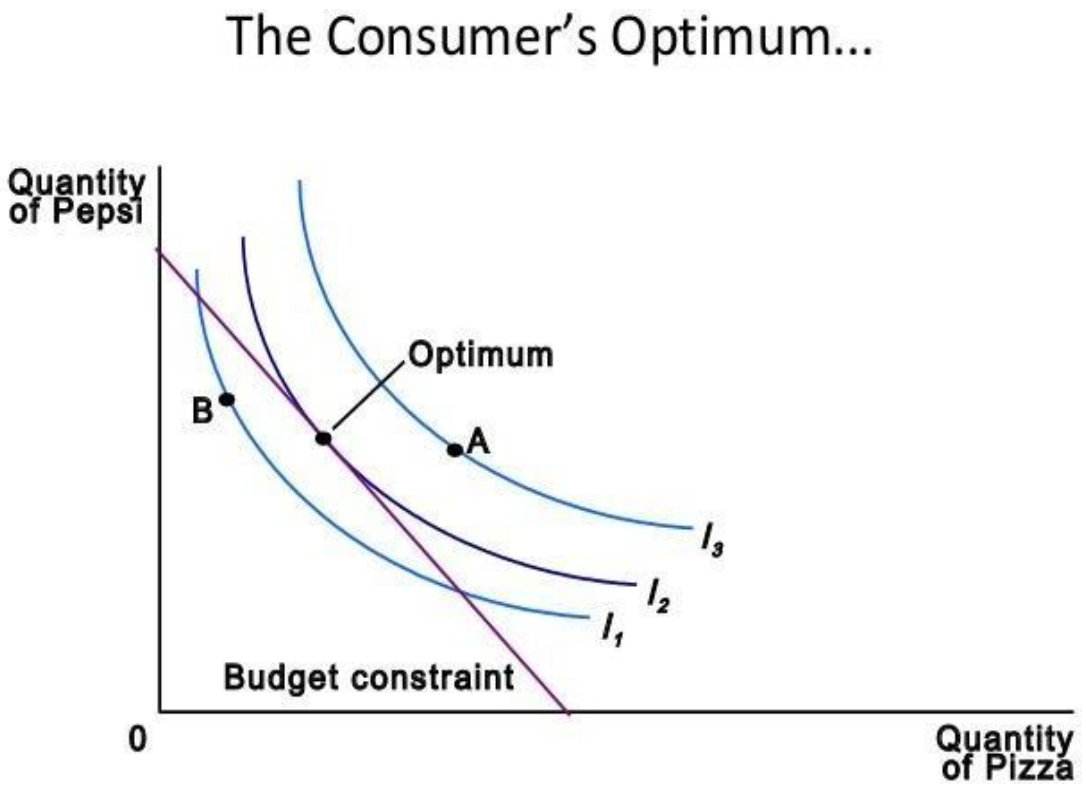
As shown in graph

- If Price increases the budget line will pivot to the left (Red line) & if price decreases the line will pivot to right (Green line)



Optimum Consumption Point

- We are now in a position to put the two elements of the analysis together: the indifference map and a budget line.
- This will enable us to show how much of each of the two goods the 'rational' consumer will buy from a given budget.



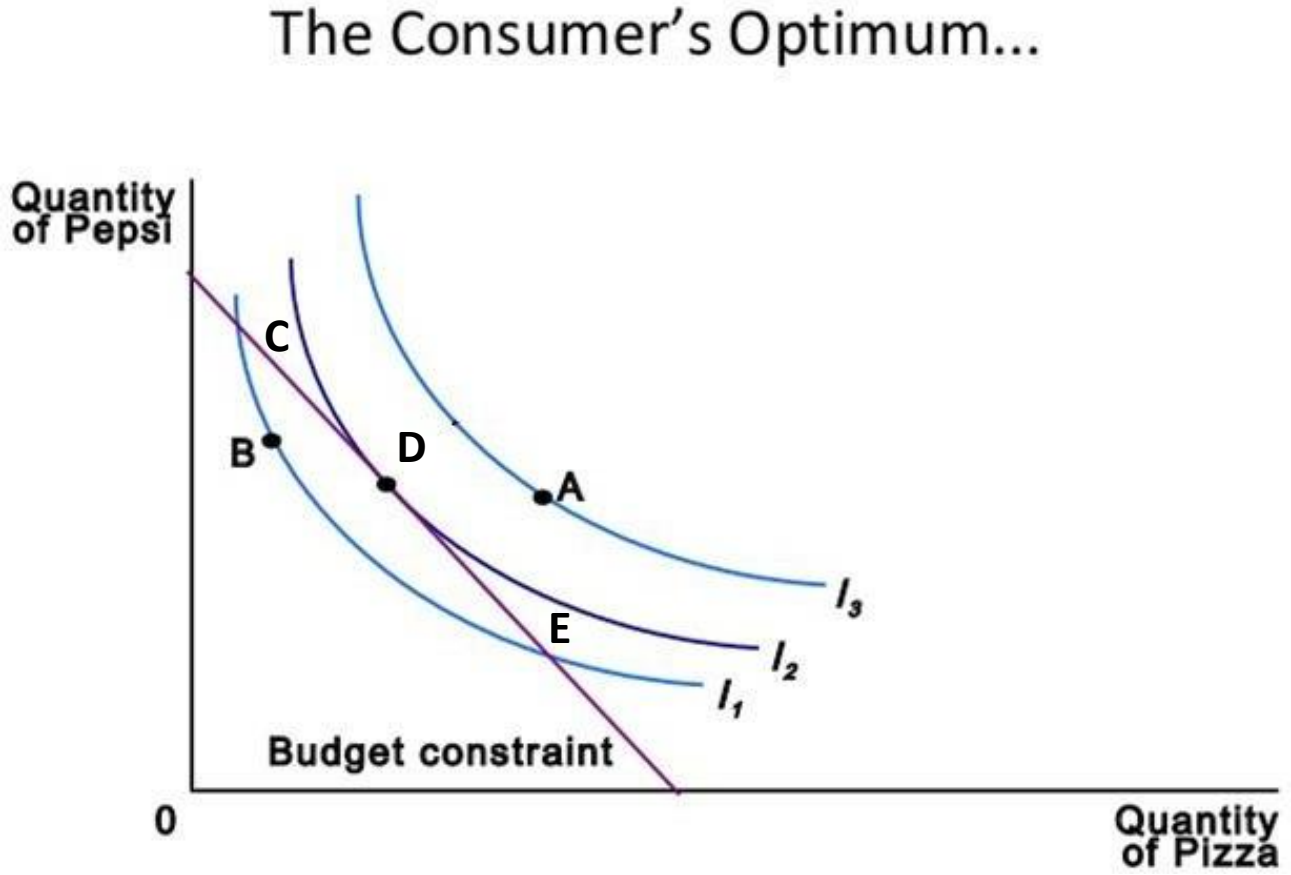
9

Optimum Consumption Point

The consumer would like to consume along the highest possible indifference curve.

In graph

- The optimum point is between C,D,E
- The consumer has capacity to pay for that product on given points due to budget constrain
- Consumer can not consider A point because he doesn't have that much budget to pay & not point B because he is spending less of his budget



9 Optimum Consumption Point

The price of an apple is 20 rupees and price of a mango is 25 rupees
Find the optimum consumption point for a budget of 600

	Apple	Mango
Combination 1	30	6
Combination 2	24	7
Combination 3	20	8
Combination 4	14	10
Combination 5	10	13
Combination 6	8	15
Combination 7	6	20

10 Limitations

1. In difference curve is difficult to derive

2. Consumer may not behave rationally

3. Based on satisfaction & this belief may be more influenced by advertising

4. Certain goods are purchased when needed, only one at a time.
   Examples would include consumer durables such as cars, televisions and washing machines. Indifference curves are based on the assumption that marginal increases in one good can be traded off against marginal decreases in another. This will not be the case with consumer durables.

11 Behavioral economics

Economics is the study of how individuals & society make decisions about ways to use scare resources to fulfill want & needs.
Based on this, according to you, what is the term ‘behavioral economics’?

11 Behavioral economics

- Behavioural economics is a subfield of economics that focuses on

    1) Psychological factors
    2) Social factors
    3) Emotional factors

that influence the decision making

- Behavioural economics can be thought of as human psychology mixed with economics

- Behavioural economics are being applied in more & more fields like

    1) Marketing
    2) Finance
    3) Political science
    4) Public policy

11 Behavioral economics

Behavioral Economics in marketing involves marketing a particular product in such a way that appeals more to psychology of customers, thus increasing sales
Similarly, in what other fields/departments of a company can behavioral economics be used and how?

11 Behavioral economics

Beha· vioural economics assumes that the **people behave rationally**

For Example – If the price of product falls people will buy that product more, so the law of demand holds true

12 Limits

12.A Bounded Rationality

- A person might in principle want to maximize utility, but faces complex choices and imperfect information.
- Sometimes, it would be possible to obtain better information.
- But on other occasions people may decide that it is not worth the time and effort, and perhaps expense, of getting more information.
- Their ability to be 'rational' is thus limited or 'bounded' by the situation in which they find themselves.
- For example – If you were asked to buy 1kg of sugar without any knowledge of the general price, you will pay whatever amount the store person asks you without enquiring other stores and general price

'Bounded Rationality – Biases and Heuristics' - Article

(For further examples)

12 Limits

12.B Heuristics

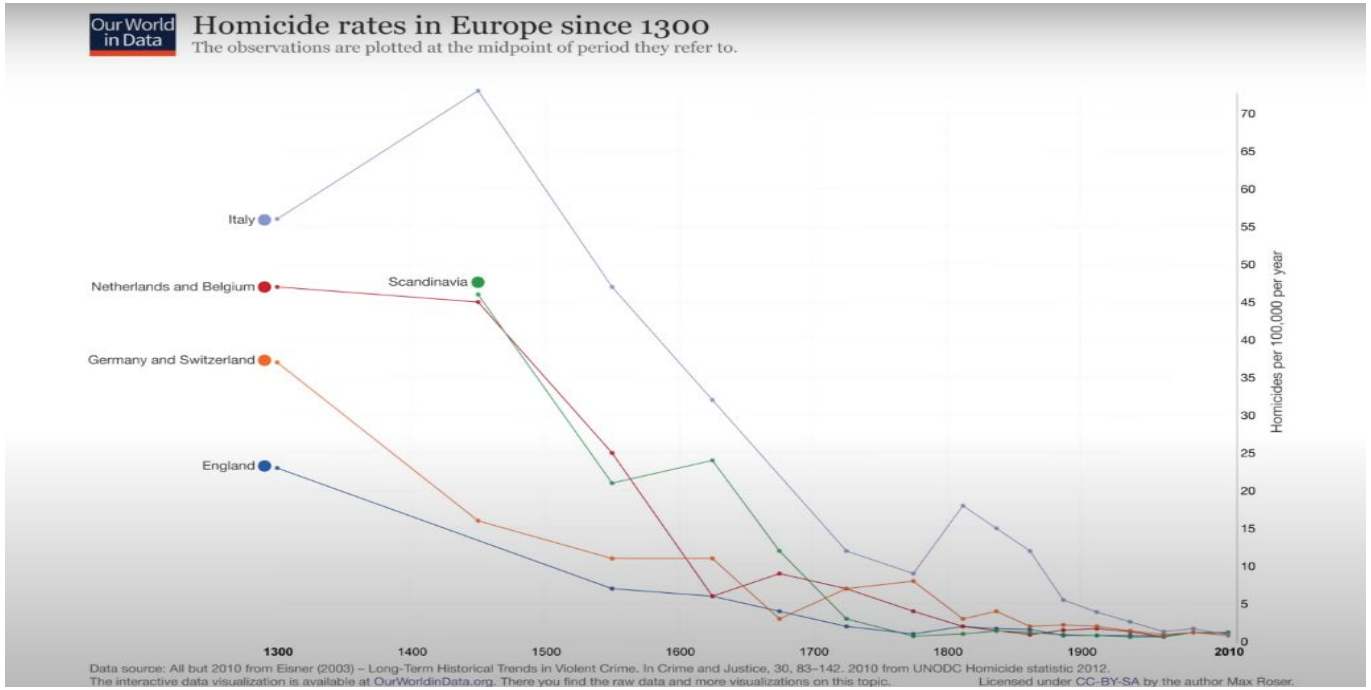
- When trying to solve complex problems or when faced with limited information. They reduce the computational or research effort required but sometimes lead to systematic errors.

- People may resort to making the best guess, or to drawing on past experiences of similar choices that turned out to be good or bad. Sometimes, when people are likely to face similar choices again, they resort to trial and error. They try a product. If they like it, they buy it again; if not, they don't.

- For example, you may have had a Sony TV before and liked it and so, when buying a laptop, choose a Sony.

12 Limits

If you were asked ‘Is the world more or less violent in the past 20 years than previously?’, what is the first answer that comes to mind?
Is your answer based on actual statistical data or heuristics based on available news?

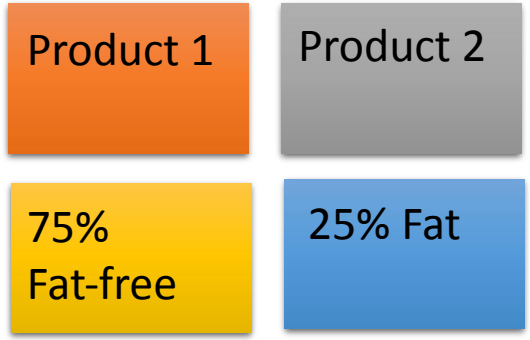


‘Heuristics explained’ – Video

12 Limits

12.C Nudge Theory

- This theory influences the buying behaviour patter of consumer.
- It is helpful in making marketing decision.



Which product will be preferred?

Generally Product 1 because it is written fat ‘FREE’

12 Limits

12.C Nudge Theory

- Example –
- To increase healthy food consumptions among children, in a school cafeteria salads and other healthy food were kept at the start and deserts were kept at the end in inconvenient places
- Classical economics suggests children will prefer deserts which give maximum utility
- On the contrary children actually preferred salads which was at the start instead of deserts

‘Richard Thaler - Nudge: An Overview’ – Video

12 Limits

12.D Hindsight Bias

- Events that actually take place are easier to imagine and visualise than those that do not. Therefore, people have a tendency to
  1. overestimate the chances that an event would happen after it has actually occurred;
  2. underestimate the chances that an event would happen that did not occur.

- Example – After watching their team lose, football fans believe that the tactics chosen by the manager were always more likely to fail than they actually were before the game began.

- Financial bubbles are always subject to substantial hindsight bias after they burst. Following the dotcom bubble in the late 1990s and the Great Recession of 2008, many analysts demonstrated clearly how events that seemed trivial at the time were actually harbingers of future financial trouble. They were right, but other concurrent events reinforced the assumption that the boom times would never end.

12 Limits

12.E Loss aversion

Loss is more painful then gain

Example

- To increase the use of reusable bag one supermart came with the plan that if customer is coming with reusable bags then they will get 20 rupess discount on bill
- But this thing didn't influence people more
- Now they come up if the people use plastic bag then they need to pay 20 rupees as tax
- After this decision people started using reusable bags

12 Limits

12.F Endowment Effect

- The hypothesis that people ascribe more value to things when they own them than when they are merely considering purchasing or acquiring them – in other words, when the reference point is one of ownership rather than non-ownership.

12 Limits

12.F Endowment Effect

Example –

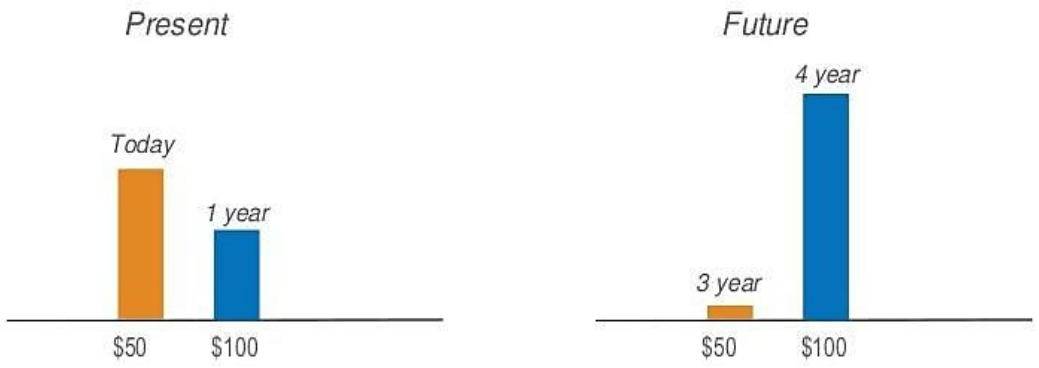
- In a famous study, Kahneman, Knetch and Thaler1 carried out a series of experiments with students on a Law and Economics degree at Cornell University.
- They were randomly divided into two equal-sized groups.
- Students in one group were each given a coffee mug and told that they could sell it if they wished. They were asked for their willingness to accept (WTA).
  Students in the other group could each examine the mugs and make an offer to buy one. They were asked their willingness to pay (WTP).
- The authors found that the median WTA of the students who were given the mugs was $5.25 whereas the median WTP in the other group was only $2.25.
- As the students had been randomly allocated into the two groups, standard theory predicts that WTP should be equal to WTA. However, the evidence suggests that those who were given ownership of the mugs at the start of the experiment valued them far more than those who were not.

12 Limits

12.G Time Consistency

- Where a person's preferences remain the same over time.
- The idea that present reward is more desirable than future onces

Research: would you want to receive $50 today or $100 next year? How about $50 in three years or $100 in four years?



12 Limits

12.H Present Bias

- Time-inconsistent behaviour whereby people give greater weight to present pay-offs relative to future ones than would be predicted by standard discounting techniques. Basically, where people's behaviour is influenced by the effects it will have on others.

- We start by looking at the effect of our consumption on other people. Behavioral economists have tried to develop utility functions that capture the idea that consumers care about the pay-offs to other people as well as themselves.

- Example – Having altruistic preferences in economics means that you might be willing in some circumstances to increase the pay-offs to another person or group of people at a personal cost to yourself.

- Example - Many people make New Year's resolutions; most do not stick to them! People are weak willed; people put things off. This is where people put a greater weight on present benefits and/or costs than would be implied by a standard discounting approach. This means that they put excess weight on the costs of doing things they don't like doing, but believe are good for them; and excess weight on the benefits of doing things they want to do, but believe are bad for them.

12 Limits

12.1 Relativity Matters

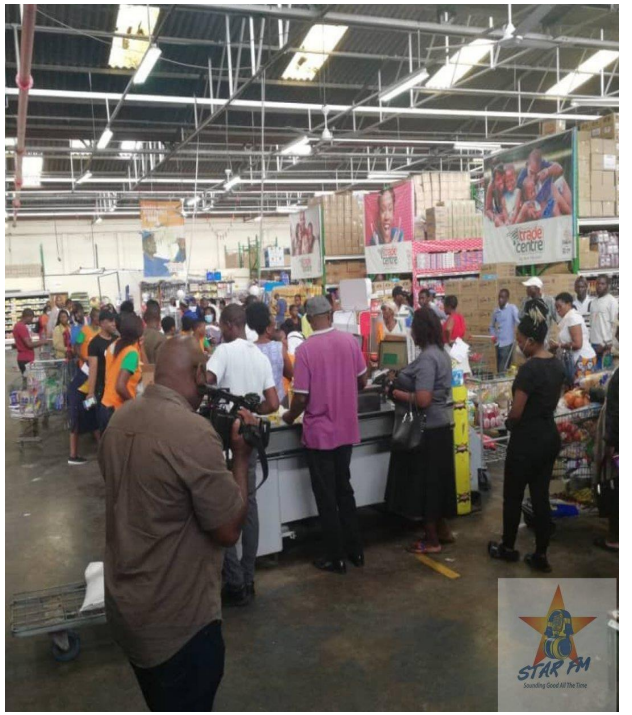
- Not only are we likely to consider the effect we have on others and be motivated by either altruism or spite, but we are also likely to be influenced by other people's behaviour.

- Example – If you are making a choice about buying a car, you might be influenced by the car your brother drives; if he chooses an Audi, perhaps you would like a more expensive car, a Mercedes possibly.

12 Limits

12.J Herding & Group thinking

- Being influenced by what other people buy, and thus making relative choices, can lead to herd behavior.
- A fashion might catch on; people might grab an item in a sale because other people seem to be grabbing it as well
- But there is a danger in such behavior
- An example of human herd behavior is the phenomenon of stock market bubbles. Large stock market trends often begin and end with a mass frenzy of buying (bubbles) or selling (crashes). Many observers see these stock market trends as examples of herding behavior because individuals are driven by emotion rather than reason to “join the crowd”; greed drives mass buying frenzies, and fear drives crashes.



Implication for economic policy

- Governments, in designing policy, will normally attempt to change people's behaviour.
- They might want to encourage people to work harder, to save more, to recycle rubbish, to use their cars less, to eat more healthily, and so on.
- If the policy is to be successful, it is vital for the policy measures to contain appropriate incentives: whether it be a tax rise, a grant or subsidy, a new law or regulation, an advertising campaign or direct help.
- But whether the incentives are appropriate depends on how people will respond to them, and to know that, the policy makers will need to understand people's behavior. This is where behavioral economics comes in.
- People might respond as rational maximizers; but they might not. It is thus important to understand how context affects behavior and adjust policy incentives appropriately.

13 Implication for economic policy

An example of economic policy based on behavioral economics is ‘Tax incentive for startups’.
What other examples can you think of where economic policies and decision making by government is based on behavioral economics?

Quick Recap

The want satisfying power of a commodity is called “utility”.

- **Features – Utility**

1. Relative concept
2. Subjective concept
3. Ethically neutral
4. Utility differs from usefulness
5. Utility differs from pleasure
6. Utility differs from satisfaction
7. Measurement of Utility is Hypothetical
8. Utility is multi-purpose
9. Utility depends upon the intensity of wants
10. Utility is basis for demand

Quick Recap

- **Total utility** refers to the complete amount of satisfaction gained.
- **Marginal utility** refers to the satisfaction gained from an extra unit consumed.
- TU has a upward sloping curve at a decreasing rate and MU has a downward sloping curve
- Law of DMU – "The additional benefit which a person derives from an increase of his stock of a thing diminishes with every increase in the stock that already has".

- **Assumptions – DMU**
  1. Reasonability
  2. Cardinal Measurement
  3. Homogeneity
  4. Single want
  5. Divisible
  6. Constancy
  7. Continuity

- **Exceptions – DMU**
  1. Money
  2. Addiction
  3. Hobbies
  4. Misers
  5. Power

Quick Recap

- Indifference analysis is based on the concept of utility and satisfaction.
- **Indifference curve** – A graph that shows a combination of two goods that give a consumer equal satisfaction and utility, thereby making the consumer indifferent.
- The aim of **indifference analysis**, then, is to analyze, without having to measure utility, how a rational consumer chooses between two goods.
- **Marginal rate of substitution** – The amount of one good (B) that a consumer is prepared to give up in order to obtain one extra unit of another good (A).
- MRS = $\frac{MU\ X}{MU\ Y}$ = slope of indifference curve (ignoring negative sign)
- **Indifference map** – A graph showing a whole set of indifference curves.
- The **budget line** shows what combinations of two goods you are able to buy, given your income available to spend on them and their prices.

Quick Recap

- If the budget changes, budget line shifts to right or left
- If the price of a commodity changes, the slope of budget line changes
- The consumer would like to consume along the highest possible indifference curve. Considering a limited budget, the **optimum consumption point** will be tangent point of the highest attainable indifference curve and the budget line

Quick Recap

- Behavioral economics is a subfield of economics that focuses on Psychological factors, Social factors and Emotional factors that influence the decision making

- Behavioral economics considers some limits which contradict the standard economic theory
  1. Bounded Rationality
  2. Heuristics
  3. Nudge Theory
  4. Hindsight Bias
  5. Loss aversion
  6. Endowment Effect
  7. Time consistency
  8. Present Bias
  9. Relativity Matters
  10. Herding and Group Thinking

- The policy makers will develop various incentives to change people's behavior. For this they will need to understand people's behavior. This is where behavioral economics comes in.