

Module 4

Consumer behavior Theory

This module introduces you to:

- **The Model of consumer behavior:**
 - **Preference: What the consumer wants?**
 - **Utility: what the benefit the consumer gets?**
 - **Budget Constraints: What the consumer can afford?**

Consumer Behavior Model

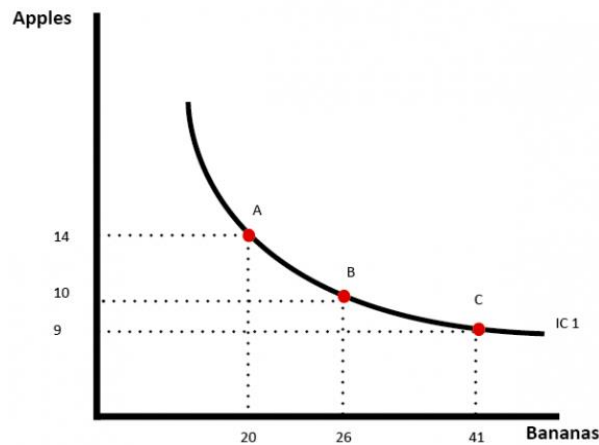
- The Model of consumer behavior is based on:
- Preferences:
Individual tastes or preferences determine the amount of pleasure people derive from the goods and services they consume .
- Utility :
Economists summarize a consumer's preferences using a utility function ,which assigns a numerical value to each possible set of goods, reflecting the consumer's relative ranking of these bundles .
- Budget constraint :
Consumers face constraints or limits on their choices) Prices ,income ,and government restrictions)

limit a consumer's ability to make purchases by determining the rate at which a consumer can trade one good for another
- Consumers maximize their pleasure from consumption ,subject to the constraints they face

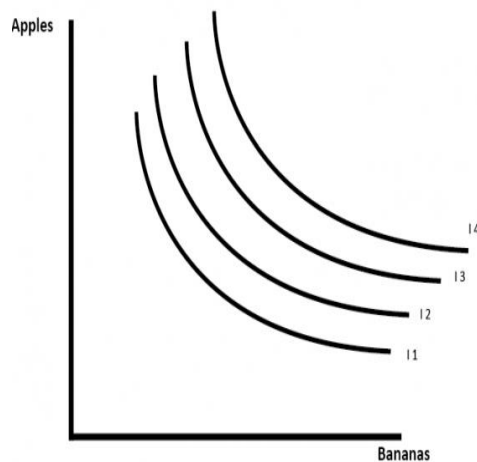
Preference: What the consumer wants

- Indifference curve: is a line showing all the combinations of two goods which give a consumer equal utility. In other words, the consumer would be indifferent to these different combinations.

If the two bundles suit his tastes equally well, we say that the consumer is indifferent between the two bundles.



- The consumer is equally happy at all points on any given indifference curve, but he prefers some indifference curves to others.
- Because he prefers more consumption to less, higher indifference curves are preferred to lower ones.
- The slope at any point on an indifference curve equals the rate at which the consumer is willing to substitute one good for the other. This rate is called the marginal rate of substitution (MRS).



- MRS: the rate at which a consumer is willing to trade one good for another.
- Four Properties of Indifference Curves
 - Property 1: Higher indifference curves are preferred to lower ones.
 - Property 2: Indifference curves are downward sloping.
 - Property 3: Indifference curves do not cross.
 - Property 4: Indifference curves are bowed inward.

- The bowed shape of the indifference curve reflects the consumer's greater willingness to give up a good that he already has in large quantity

Utility

- A consumer's preferences determine the benefits or satisfaction a person receives consuming a good or service.
- The benefit or satisfaction from consuming a good or service is called utility.
- Total Utility

Total utility is the total benefit a person gets from the consumption of goods.

Marginal Utility

is the change in total utility that results from a one-unit increase in the quantity of a good consumed.

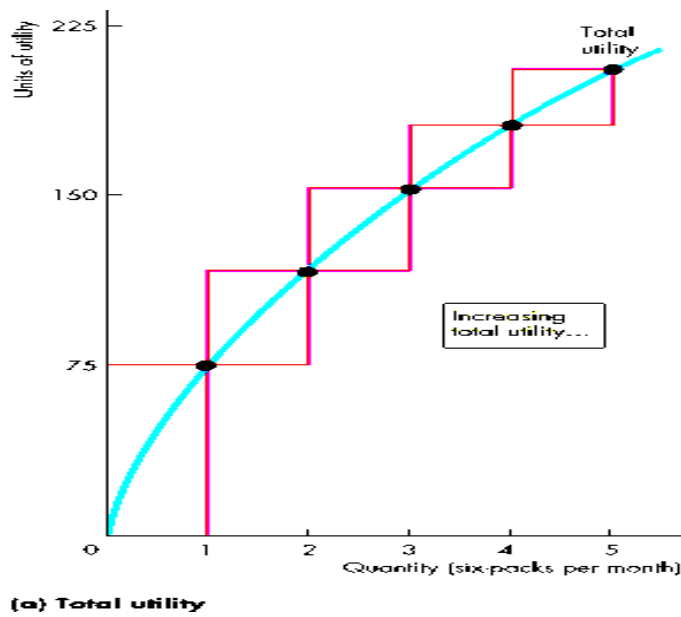
As the quantity consumed of a good increases, the marginal utility from consuming it decreases.

We call this decrease in marginal utility as the quantity of the good consumed increases the principle of diminishing marginal utility.

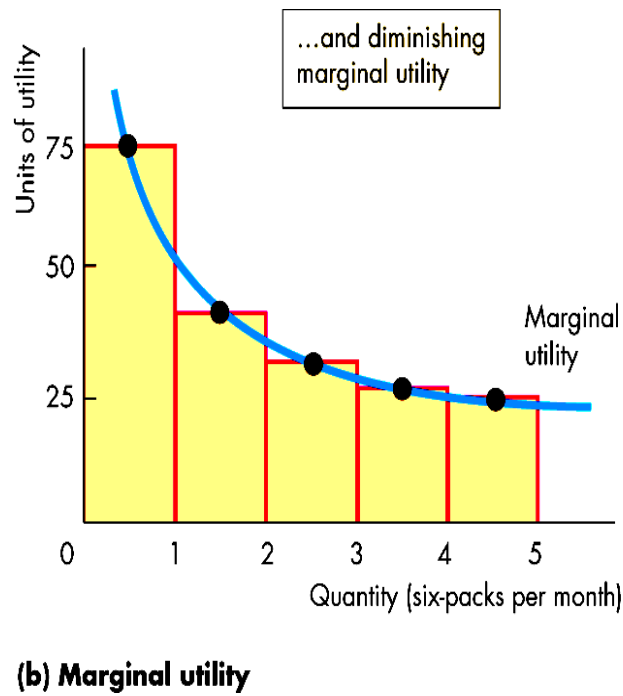
Marginal utility & Total utility

units	Total utility	Marginal utility
1	75	75
2	123	48
3	159	36
4	183	24
5	205	22
6	225	20

Total utility increases with the consumption of a good.



Diminishing marginal utility.



Calculate Marginal Utility

How many pizzas would you buy if the price per slice was \$2?

# of Slices of Pizza	Total Utility (in dollars)	Marginal Utility/Benefit
0	0	
1	8	
2	14	
3	19	
4	23	
5	25	
6	26	
7	26	
8	24	

# of Slices of Pizza	Total Utility (in dollars)	Marginal Utility/Benefit	Marginal Cost
0	0	0	\$2
1	8	8	\$2
2	14	6	\$2
3	19	5	\$2
4	23	4	\$2
5	25	2	\$2
6	26	1	\$2
7	26	0	\$2
8	24	-2	\$2

You will continue to consume until Marginal Benefit = Marginal Cost

Utility Maximization

# Times Going	Marginal Utility (Movies)	MU/P (Price =\$10)	Marginal Utility (Go Carts)	MU/P (Price =\$5)
1st	30		10	
2nd	20		5	
3rd	10		2	
4th	5		1	

If you only have \$25, what combination of movies and go carts maximizes your utility?

# Times Going	Marginal Utility (Movies)	MU/P (Price =\$10)	Marginal Utility (Go Carts)	MU/P (Price =\$5)
1st	30	\$3	10	\$2
2nd	20	\$2	5	\$1
3rd	10	\$1	2	\$.40
4th	5	\$.50	1	\$.20

Utility Maximizing Rule:

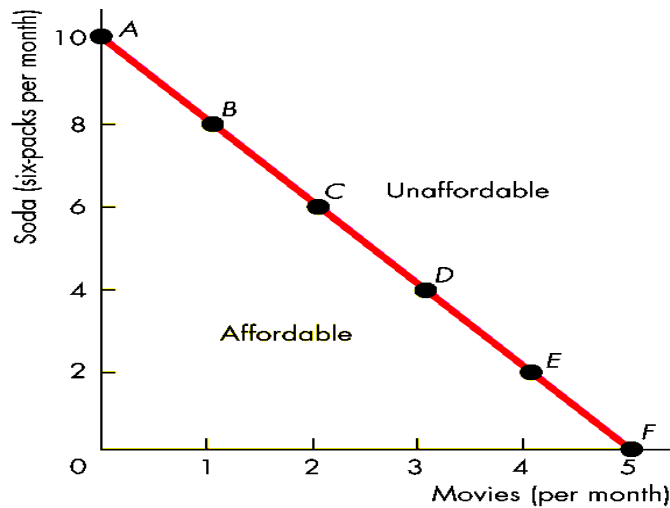
The consumer's money should be spent so that the marginal utility per dollar of each goods equal each other.

$$\frac{\mathbf{MU_x}}{\mathbf{P_x}} = \frac{\mathbf{MU_y}}{\mathbf{P_y}}$$

Budget constraint

- Budget constraint: A household's consumption possibilities are constrained by its budget and the prices of the goods and services it buys.
(the limit on the consumption bundles that a consumer can afford)
- People consume less than they desire because their spending is constrained, or limited, by their income.
- The budget line describes the limits to the household's consumption choices.
- The Budget Equation:
We can describe the budget line by using a budget equation
The budget equation states that : Expenditure = Income
Call the price of product 1 P1, the quantity Q1, the price of a product 2 P2, the quantity Q2, and income Y.
- The budget equation is:

$$P1Q1 + P2Q2 = Y.$$



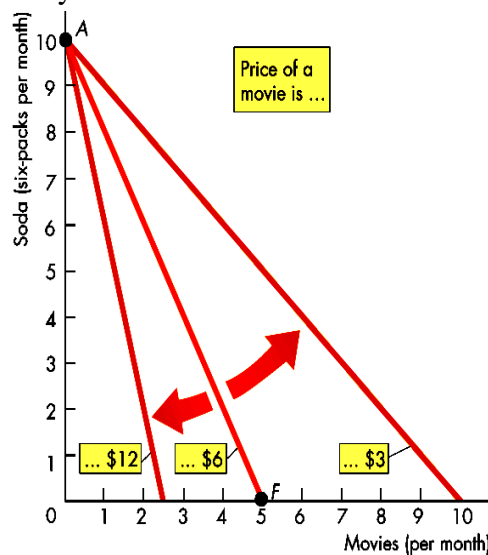
All the points on the line from A to F are possible. This line, called budget constraint, shows the consumption bundles that the consumer can afford.

It also shows the tradeoff between two goods that the consumer faces.

The slope of the budget constraint measures the rate at which the consumer can trade one good for the other.

The slope of the budget constraint equals the relative price of the two goods—the price of one good compared with the price of the other.

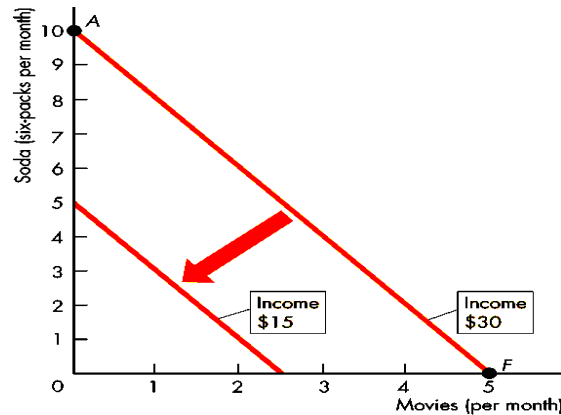
- A household's real income is the income expressed as a quantity of goods the household can afford to buy.
- The real income in terms of soda is the point on the budget line where it meets the y-axis.
- A relative price is the slope of the budget line which is the price of one good divided by the price of another good.
- The relative price shows how many sodas must be left to see an additional movie.



(a) A change in price

- The Figure shows the rotation of a budget line after a change in the relative price of movies
- The slope of the budget line doesn't change

- A fall in the price of the good on the x-axis increases the affordable quantity of that good and decreases the slope of the budget line.

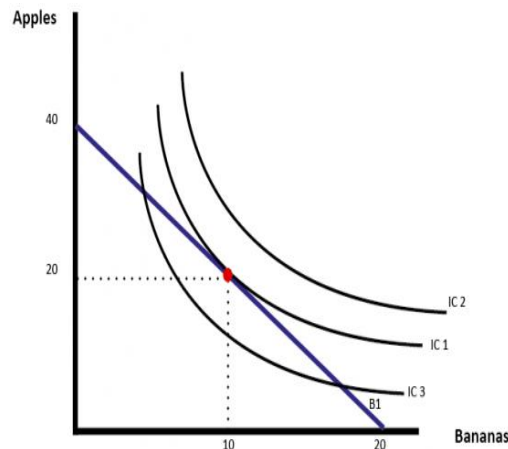


(b) A change in income

- The Figure shows the effect of a fall in income
- An change in the household's income brings a parallel shift of the budget line.
- The slope of the budget line doesn't change because the relative price doesn't change.

Optimization: What the consumer chooses

- The consumer's optimal choices: The consumer chooses the point on his budget constraint that lies on the highest indifference curve.
- We say that the indifference curve is tangent to the budget constraint.
- At this point, called the optimum, the marginal rate of substitution equals the relative price of the two goods.
- Thus, the consumer chooses consumption of the two goods so that the marginal rate of substitution equals the relative price.



- Given a budget line of B1, the consumer will maximise utility where the highest indifference curve is tangential to the budget line (20 apples, 10 bananas)
- Given current income – IC2 is unobtainable.
- IC3 is attainable but gives less utility than the higher IC1