

DEMAND AND DEMAND FUNCTION

Individual Demand

Demand for a commodity is the amount of it that a consumer will purchase at a given price during a period of time. The period of time may vary from a day to a year or any other period.

Demand needs to be backed by purchasing power or ability to pay.

Factors of Demand

1. Price of a commodity
2. Tastes and preferences of the consumer for a commodity
3. Income of the consumer
4. Prices of related goods (Substitutes or Complements)

Individual demand refers to the demand by a single consumer. On the other hand, market demand for a good is the total sum of the demands of individual consumers.

Demand and Utility

Utility means the amount of satisfaction which an individual derives from consuming a commodity.

Direct demand is the consumer's demand for goods for their own satisfaction

$$\text{Demand} = F(\text{Utility})$$

Greater the utility a consumer expects from a commodity, greater is the demand. This implies that there is a positive relationship between utility and demand.

Demand and Quantity Demanded

Demand refers to the quantities of commodity which consumers buy at various prices of a good during a period of time.

Quantity demanded is the amount of a good or service which consumers plan to buy at a particular price.

- Quantity demanded > Quantity of a good available for sale.
- Quantity demanded is a flow concept

Demand Function

$$Q_D = f(P_x, Y, P_R, T, A)$$

Q_D = Demand of a commodity

P_x = Own price of the commodity

Y = Income of the individual

P_R = Prices of related commodities

A = Advertising Expenditure

Quantity demanded is a function of its own price, other determinants remaining constant.

$$Q_D = f(P)$$

There is an inverse relationship between quantity demanded and price, that is, higher the price, lower will be the demand.

Specific demand function of a **linear form** is written as:

$$Q_D = a - bP_x$$

Law of Demand

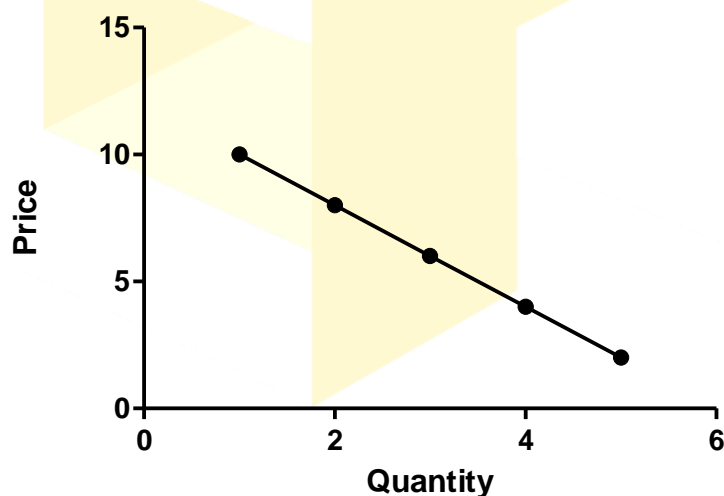
According to the law of demand, other things being equal if the price of a commodity falls, the quantity demanded of it will rise, and if the price of the commodity rises, its quantity demanded will decline. Therefore, there is an **inverse relationship** between price and quantity demanded, other things remaining the same.

Demand Curve and Law of Demand

Demand Curve: Graphic Presentation of demand schedule expressing the relationship between different quantities demanded at difference possible prices.

“The demand curve represents to maximum quantities per unit of time that consumers will take at various prices”- *Leftwich*

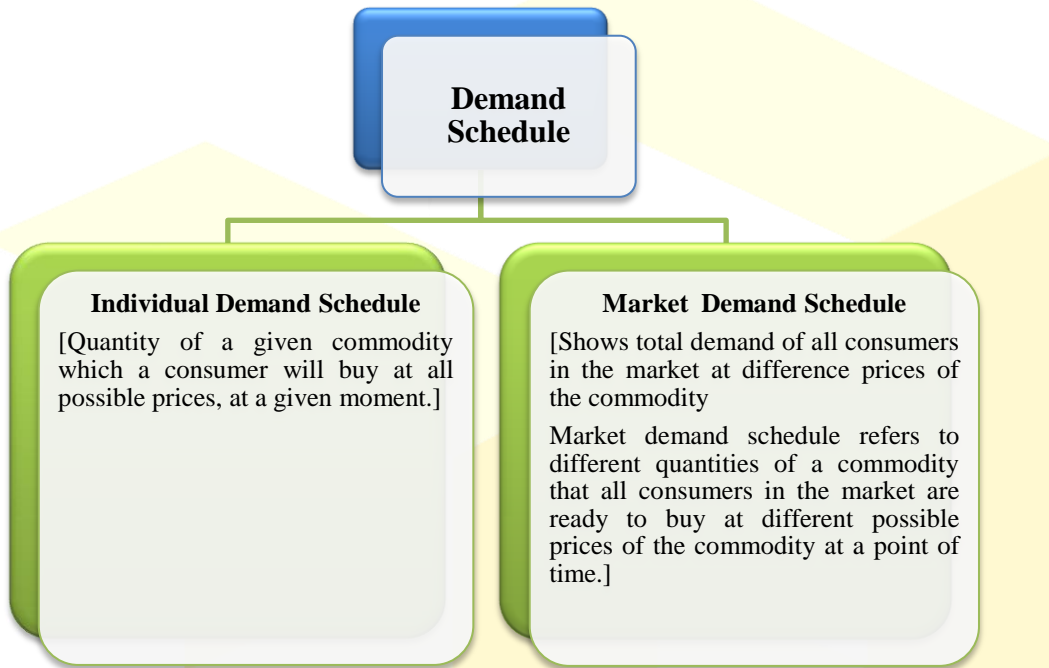
Individual demand curve (represents different quantities of the commodity demanded by a consumer at different prices.)



Market demand curve (The horizontal summation of the individual demand curves.)

Demand Schedule

According to *Samuelson*, “The Table relating to price and quantity demanded is called the demand schedule.”



Demand Schedule

Price	Quantity
10	0
8	10
6	20
4	30

Demand schedule or demand curve only tell us how much quantity of a good would be purchased by the consumer at various prices.

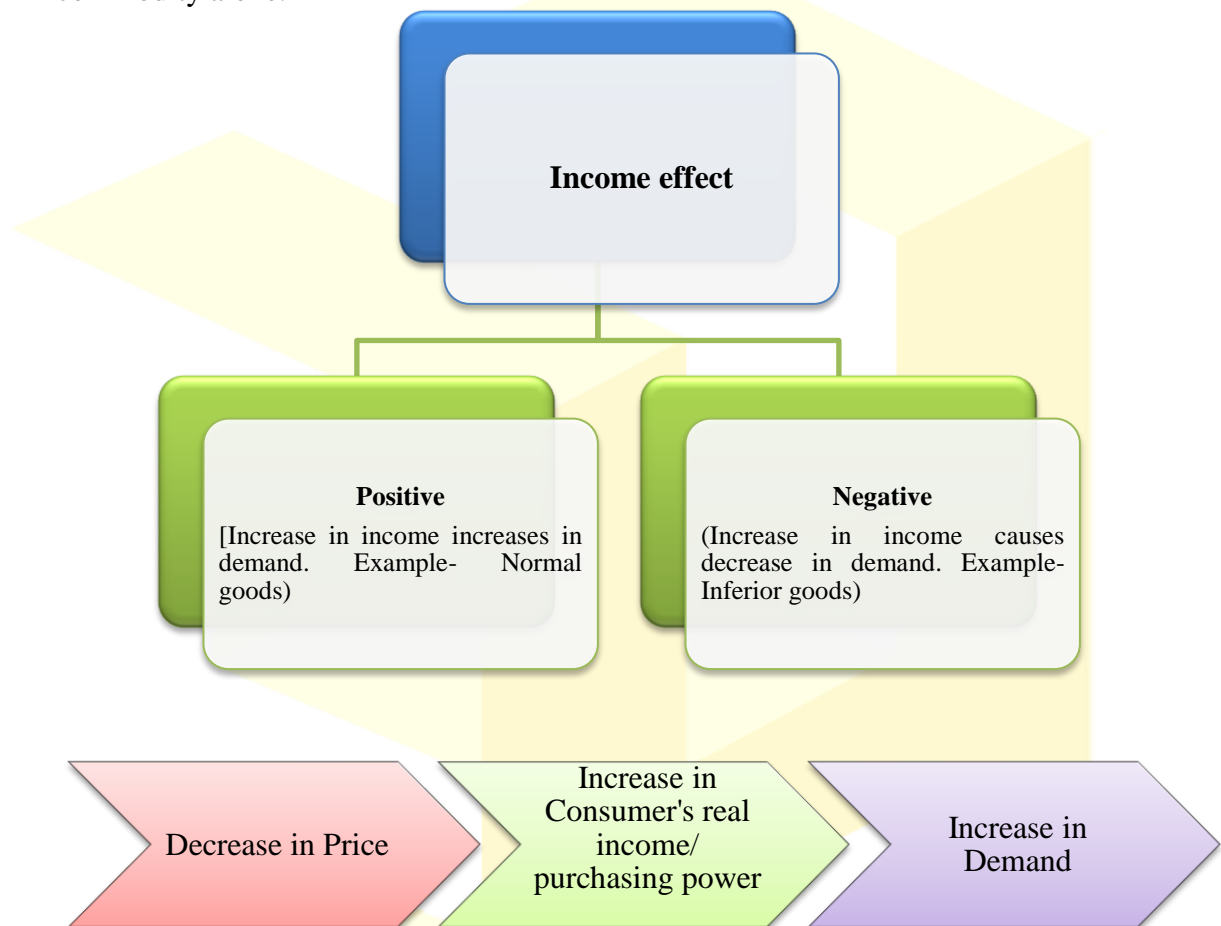
Downward sloping demand curve is in accordance with the law of demand which describes an inverse relationship between price and demand.

Assumptions of the Law of Demand

- a) Tastes and preferences of the consumer remain constant.
- b) No change in the income of the consumer.
- c) Prices of related goods do not change.
- d) Consumers do not expect any change in the price of the commodity in the near future.

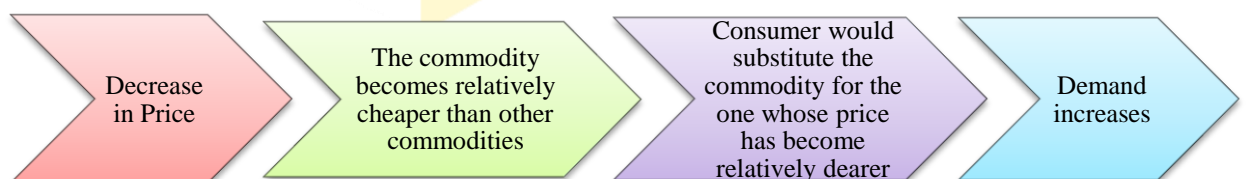
Rationale for downward sloping demand curve

1. **Law of Diminishing Marginal Utility(DMU):** - According to this law, as a consumer, in a given time, increases the consumption of a commodity, the utility from each successive unit goes on diminishing. A consumer will buy more and more units of a commodity only when he has to pay less and less price for each successive unit.
2. **Income effect:** - Income effect is the effect on the change in quantity demanded when the real income of buyer changes as a result of the change in the price of the commodity alone.



Note: $\text{Real Income} = \frac{\text{Nominal Income}}{\text{Price of the commodity}}$

3. **Substitution effect:** - Refers to the substitution of one commodity for the other when it becomes relatively cheaper.

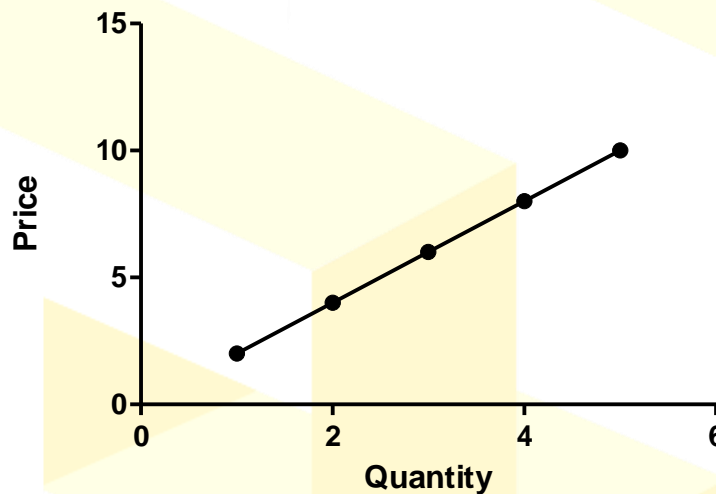


Note: Substitution Effect > Income effect

4. **Size of consumer group:** - When the price of a commodity falls, many consumers who were not buying it at its previous price, begin to purchase it. Therefore demand increases.
5. **Different uses:** - If the price of the commodity decreases, the demand would increase because now the commodity will be used for other purposes.

Exceptions to the Law of Demand

There are some commodities whose demand increases when their price rises and decreases when their price falls.



The fact was analyzed by **Sir Robert Giffen**, so it is called **Giffen's Paradox**.

Causes

1. **Articles of Distinction:** - First mentioned by Veblen, saying that articles of distinction have more demand only if their prices are sufficiently high. E.g. Diamond jewellery etc. Some consumers measure the utility of a commodity entirely by its price, that is, greater the price of a commodity, the greater is its utility. This is known as the Veblen Effect.
2. **Ignorance:** - Sometimes the consumers feel that a good is worthless if its price is low and so purchase very little quantity of the same.
3. **Giffen goods:** - Those goods whose price effect is positive & income effect is negative. In simple words, there is a direct relationship between demand and price in case of giffen goods.



In case of Giffen goods, negative income effect is always stronger than the substitution effect.

Market Demand Function

Market Demand for a good is the total sum of the demands of all individual consumers who purchase the commodity at various prices in the market in a period.

$$Q_D = f(P_x, Y, P_R, T, A, N)$$

Q_D = Demand of a commodity

P_x = Own price of the commodity

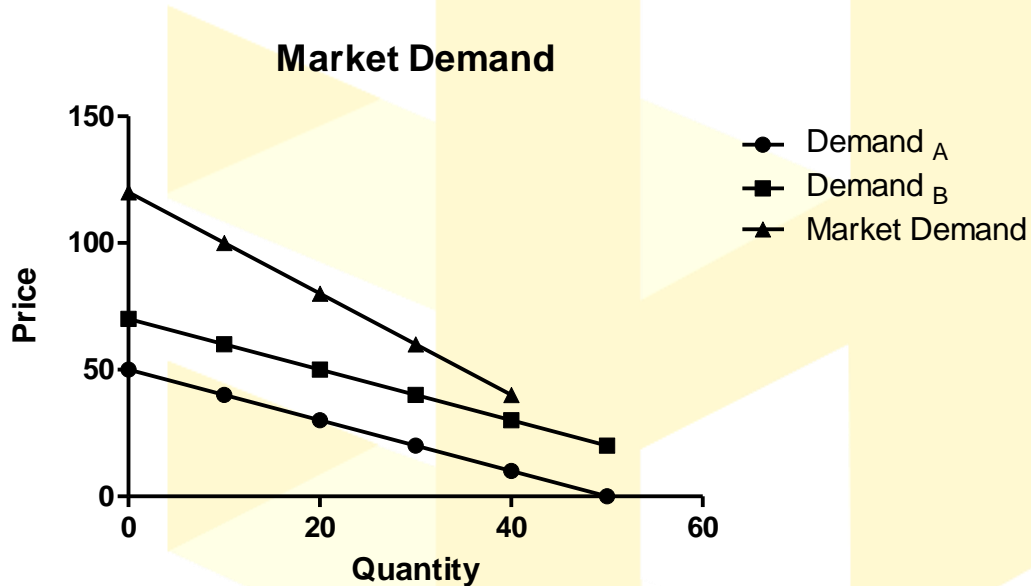
Y = Income of the individual

P_R = Prices of related commodities

A = Advertising Expenditure

N = Number of consumers or population

Market Demand Curve



Relationship between Demand function and Demand Curve

Demand function specifies the relationship between quantity demanded of a product with many independent variables. **Demand curve** of a product is a graphic representation of only a part of the demand function with price of the product as the only independent variable.

Bandwagon Effect and Snob Effect

Bandwagon Effect: Arises because individuals demand some commodities because others are doing so, that is, those commodities are in fashion.

Snob Effect: It refers to the desire to purchase a commodity having prestige value so as to look different or exclusive than others. It tends to make the demand steeper or less elastic.

Factors Determining Demand

1. Tastes and Preferences of the Consumers:

Greater Tastes	Greater Demand
Lesser Tastes	Lesser Demand

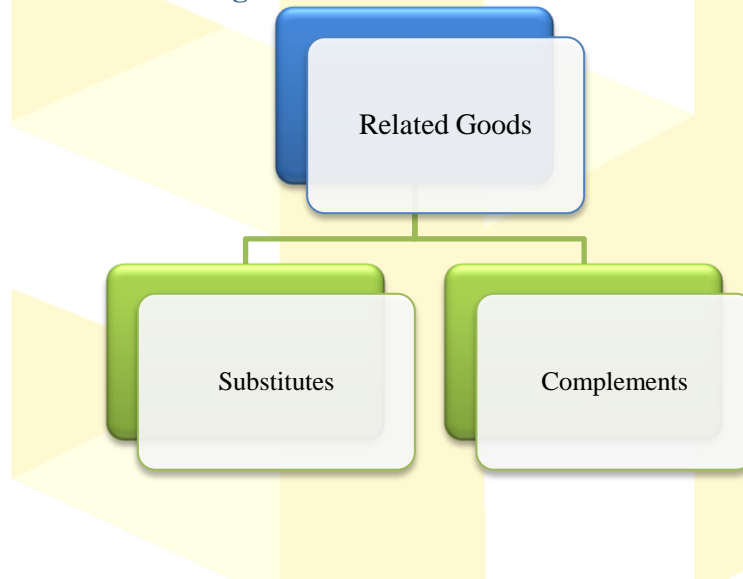
Tastes and preferences depend upon:

- Change in fashion
- Advertisements

2. Income of the people:

Increase in Income	Increase in Demand
Decrease in Income	Decrease in Demand

3. Changes in Prices of Related goods:



Type of Good	Price	Demand
Substitutes	Increase in Price of Y	Increase in Demand of X
	Decrease in Price of Y	Decrease in Demand of X
Complements	Increase in Price of Y	Decrease in Demand of X
	Decrease in Price of Y	Increase in Demand of X

4. **Advertisement Expenditure:** When advertisement are proven successful, they cause an increase in the demand for the product.

5. **Number of consumers in the Market:**

Increase in number of consumers	Increase in Demand
Decrease in number of consumers	Decrease in Demand

Number of consumers depends upon:

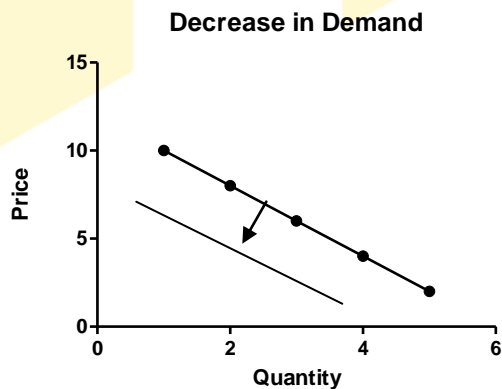
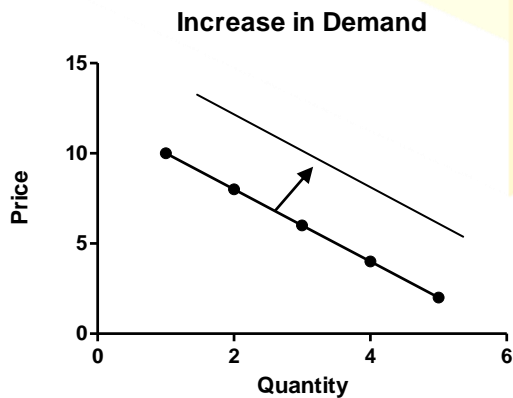
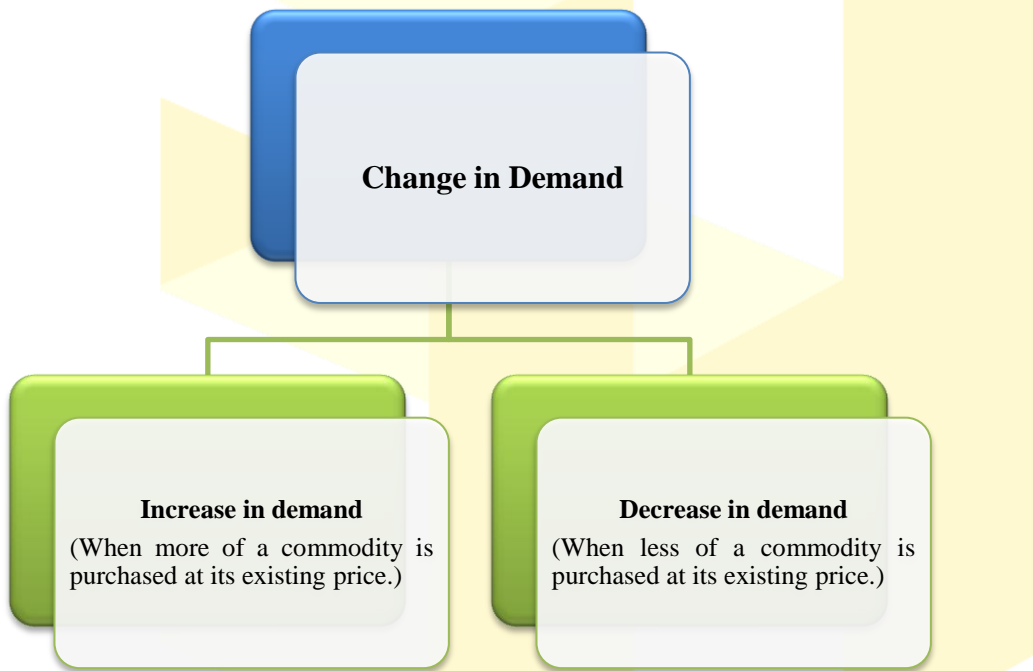
- a. Consumers substitute one good for another
- b. Growth in population

6. **Consumers expectations with regard to future prices:**

Consumers' expectations regarding future prices	Effect on demand in present
Increase in Prices	Increase in Demand
Decrease in Prices	Decrease in Demand

Change in Demand and Shifts in Demand Curve

Change in Demand is caused by change in factors other than price. This results in the shift in the demand curve.



Causes of increase and decrease in demand:

Causes increase in demand	Causes of decrease in demand
When income of the consumer increases.	When income of the consumer falls.
When price of substitute good increases.	When price of the substitute good decreases.
When price of complementary good decreases.	When price of the complementary good increases.
When taste of the consumer shifts in favour of the commodity due to change in fashion or climate.	When taste of the consumer shifts against the commodity due to change in fashion or climate.
When price of the commodity is expected to increase in near future.	When price of the commodity is expected to fall in the near future.
Increase in number of consumers.	Decrease in the number of consumers.
When income of the consumer is expected to increase in near future.	When income of the consumer is expected to fall in near future

Demand for Durable Goods

In economics, durable goods are defined as those goods that go on yielding services to the consumers over a number of periods in future.

Such goods can be stored for a long term and hence have a volatile demand.

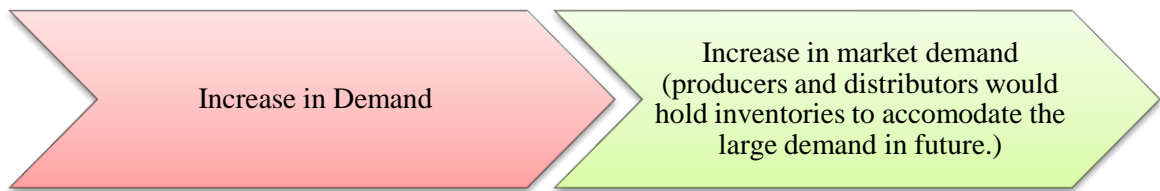
Features of Durable Goods

1. Producers, distributors and consumers keep large inventories because they can be stored.

When inventories are large:



When inventories are small:



2. Replacement of Durable goods can be deferred by undertaking additional maintenance expenditure in existing durable goods.

Difference between Durable and Non-Durable Goods

Durable Goods	Non-Durable Goods
Purchased for getting services in future periods	Purchased for current consumption only.
Fluctuations in demand is greater.	Fluctuations in demand is lesser.

Derived Demand

Derived demand: Goods which are not demanded by individuals to satisfy their wants directly but for using them to produce other consumer goods which directly satisfy their wants.