

Demand

The quantity of a commodity that a consumer is willing to buy and is able to afford, given prices of goods and consumer's tastes and preferences is called demand for the commodity.

Generally, desire, wants and demand are interchangeably used in day-to-day life. But in economics all these terms have different meanings.

Let's us understand the 3 different terms:

1. Desire means a mere wish to have a commodity.
For Eg: Desire of a poor person for a car with just ₹ 200 in his pocket. So, desire is just a wish to possess something.
2. Wants is that desire which is backed by the ability and willingness to satisfy it:
Every desire is not a want. But a desire can become a want if the person is in a position to satisfy.
For Eg: In the above example, if the poor person wins a lottery and now, he has enough money to buy a car, then his desire for car will now be termed as want.
3. Demand is an extension to wants as it has two more characteristics:
 - a) ***Demand is always defined with reference to price.***
The demand for a commodity is always stated with reference to its price. With change in price, quantity demanded may also change as more is demanded at lower price and less at higher price. Therefore, demand is meaningless without reference to price.
 - b) ***Demand is always with respect to a period of time.***
Demand is always expressed with reference to time. Even at the same price demand may change, depending upon time period under consideration
For Eg: Demand for umbrellas is more in rainy seasons as compared to other seasons. The time frame might be of an hour, a day, a month or a year.

Demand for a commodity may be either with respect to an individual or to the entire market.

1. Individual Demand:

Refers to the quantity of a commodity that a consumer is willing and able to buy at each possible price during a given period of time.

2. Market Demand:

Refer to the quantity of a commodity that all consumer are willing and able to buy at each possible price during a given period of time.

Demand Function:

Demand function shows the relationship between quantity demanded for a particular commodity and the factors influencing it.

Individual Demand Function

Individual demand function refers to the functional relationship between individual demand and the factor affecting individual demand.

It is expressed as

$$D_x = f(P_x, P_r, Y, T, F)$$

Where

D_x = Demand for commodity x

P_x = Price of the given commodity x

P_r = Price of related goods

Y = Income of the consumer

T = Taste and preference

F = Expectation of change in price in future.

Demand function is just a short-hand way of saying that quantity demanded (D_x) which is on the left-hand side, is assumed to depend on the variables that are listed on the right-hand side.

Market Demand Function

Market demand function refers to the functional relationship between market demand and the factors affecting market demand.

Market demand is affected by all factors affecting individual demand. In addition, it is also affected by size and composition of population, season and weather and distribution of income.

So, market demand function can be expressed as

$$D_x = f(P_x, P_r, Y, T, F, P_o, S, D)$$

Where

D_x = Demand for commodity x

P_x = Price of the given commodity x

P_r = Price of related goods

Y = Income of the consumer

T = Taste and preference

F = Expectation of change in price in future.

P_o = Size and composition of population

F = Expectation of change in price in future

D = Distribution of income

S = Season and Weather

Determinants of Demand (Individual Demand)

1. Price of the given commodity
2. Price of related goods.
3. Income of the consumer
4. Tastes & Preference
5. Expectation of changes in the price in future.

Determinants of Market Demand

1. Size and composition of population
2. Season and Weather
3. Distribution of income.

Demand Schedule

Demand schedule is a tabular statement showing various quantities of a commodity being demanded at various levels of price, during a given period of time.

It shows the relationship between price of the commodity and its quantity demanded.

A demanded schedule can be determined both for individual buyers and for the entire market. So, demand schedule is for two types.

- 1) Individual Demand Schedule
- 2) Market Demand Schedule

Individual Demand Schedule:

Individual demand schedule refers to a tabular statement showing various quantities of a commodity that a consumer is willing to buy at various levels of price, during a given period of time.

Price (in ₹)	Quantity Demanded of Commodity X
5	1
4	2
3	3
2	4
1	5

As seen in the schedule, quantity demanded of 'x' increases with decreases in its price. The consumer is willing to buy 1 unit at ₹5. When price falls to ₹4, demand rises to 2 units.

Market Demand Schedule:

Market demand schedule refers to a tabular statement showing various quantities of a commodity that all the consumers are willing to buy at various levels of price, during a given period of time. It is the sum all individual demand schedules at each and every price.

Market demand schedule can be expressed as

$$D_m = D_A + D_B + \dots\dots\dots$$

Where D_m is the market demand and $D_A + D_B + \dots\dots$ are the individual demands of Household A, Household B and so on.

Price (₹)	Individual Demand (in units)		Market Demand (in units)
	Household A (D_A)	Household B (D_B)	
5	1	2	$1+2=3$
4	2	3	$2+3=5$
3	3	4	$3+4=7$
2	4	5	$4+5=9$
1	5	6	$5+6=11$

Market demand is obtained by adding demand of household A and B at different prices. At ₹5 per unit, market demand is 3 units. When price falls to ₹4, market demand rises to 5 units. So, market demand schedule also shows the inverse relationship between price and quantity demanded.

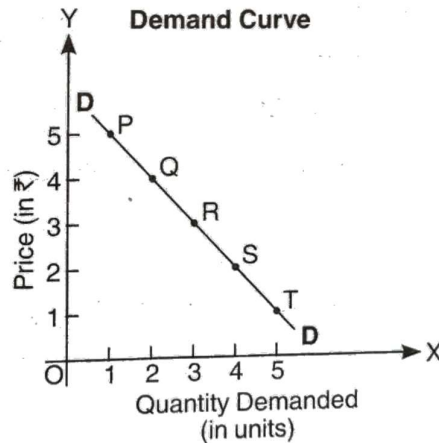
Demand Curve

Demand curve is a graphical representation of demand schedule. It is the locus of all the points showing various quantities of a commodity that a consumer is willing to buy at various levels of price, during a given period of time, assuming no change in other factors.

- It shows the inverse relationship between the quantity demanded of a commodity with its price, keeping other factor constant.
- It can be drawn for any commodity by plotting each combination of demand schedule on a graph.
- Like demand schedules, demand curves can also be drawn both for individual buyers and for the entire market. So, demand curve is of two types.
 - i) Individual Demand Curve
 - ii) Market Demand Curve.

Individual Demand Curve:

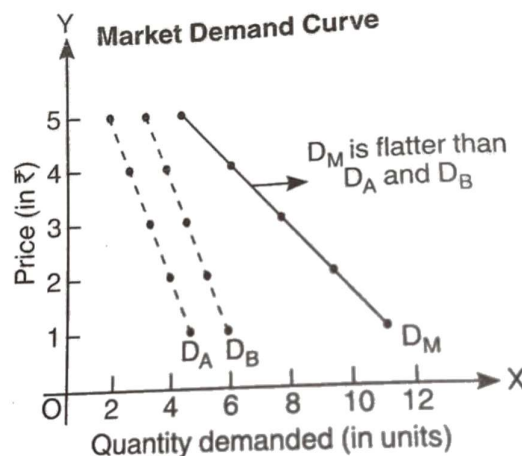
Individual demand curve refers to a graphical representation of individual demand schedule.



As seen in the diagram, price is taken on the vertical axis (Y-axis) and quantity demanded on the horizontal axis (X-axis). At each possible price, there is a quantity, which the consumer is willing to buy. By joining all the points (P to T), we get a demand curve 'DD'.

Market Demand Curve

Market demand curve refers to a graphical representation of market demand schedule. It is obtained by horizontal summation of individual demand curves.



D_A and D_B are the individual demand curves. Market demand curve (D_M) is obtained by horizontal summation of the individual demand curves.

Law of Demand

Law of demand states to invers relationship between price and quantity demanded, keeping other factor constant. This law is also known as the 'Frist Law of Purchase'.

Assumption of Law of demand

While stating the law of demand, we use the phrase ‘keeping other factors constant’. This phrase is used to cover the following assumption on which the law is based:

1. Price of substitute goods do not change.
2. Prices of complementary goods remain constant.
3. Income of the consumer remains the same.
4. There is no expectation of change in price in the future
5. Tastes and preferences of the consumer remain the same.

Law of demand can be better understood with the help of table and graph

Demand Schedule

Price (in ₹)	Quantity Demanded of Commodity X
5	1
4	2
3	3
2	4
1	5

Clearly shows that more and more units of commodity are demanded when price of the commodity falls. Demand curve DD slopes downwards from left to right, indicating an inverse relationship between price and quantity demanded.

Why Other factors are kept constant?

The quantity demanded of a commodity depends on many factors, besides price of the given commodity. If we want to understand the separate influence of one factor, it is necessary, that all other factor are kept constant. Therefore, while discussing the ‘Law of Demand’, it is assumed that there is no change in the other factors.

Individual Demand Vs Market Demand

Individual Demand	Market Demand
It is the quantity demanded of a commodity by an individual consumer at a given price during a given period of time	It is the quantity demanded of a commodity by all the consumers at a given price during a given period of time
It may or may not follow the law of Demand, i.e. it is possible that an individual consumer may demand more even at higher price.	It always follows the Law of Demand, i.e market demand always falls with rise in price and vice-versa

Individual demand is not affected by all the factors affecting market demand

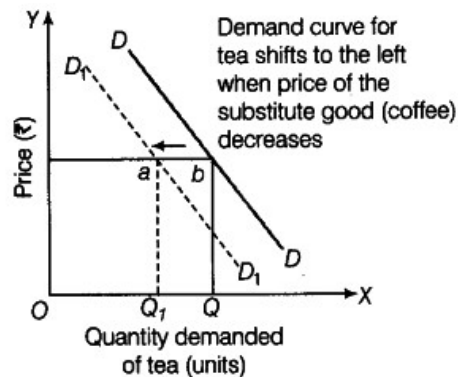
Market demand is affected by all the factors affecting individual demand.

Substitute Goods and Complementary goods

Substitute Goods

Substitute goods are those goods which can be used in place of one another for satisfaction a particular want, like tea and coffee.

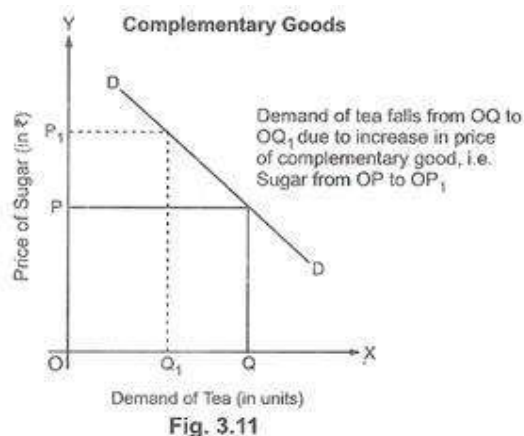
Demand for a given commodity varies directly with the price of substitute good. For Eg: if price of a substitute good (say, coffee) increases, then demand for given commodity (say, tea) will rise as tea will become relatively cheaper in comparison to coffee.



As seen in the given diagram, price of coffee (substitute good) is shown on the Y-axis and demand for tea (given commodity) on the X-axis. When price of coffee rises from OP and OP_1 demand for tea also rises from OQ to OQ_1

Complementary Goods

Complementary goods are those goods which are used together to satisfy a particular want. Demand for given commodity varies inversely with the price of a complementary good. For Eg: if price of a complementary good (say, sugar) increases, then demand for given commodity (say, tea) will fall as it will be relatively costlier to use both the goods together.



As seen in the given diagram, price of sugar (complementary good) is shown on the Y-axis and demand for tea (given commodity) on the X-axis. When the price of sugar rises from OP to OP₁ demand for tea falls from OQ to OQ₁

Substitute Goods Vs Complementary Goods

Basis	Substitute Goods	Complementary Goods
Meaning	Substitute goods refers to those goods which can be used in place of one another to satisfy a particular want.	Complementary goods refer to those goods which are used together to satisfy a particular want.
Nature of demand	Substitute goods have competitive demand	Complementary goods have joint demand.
Relation	Price of one substitute good has positive relationship with quantity demanded of another substitute good.	Price of a complementary good has negative relationship with quantity demanded of another complementary good.
Example	Tea and coffee Coke and Pepsi	Tea and Sugar Car and Petrol

Normal Goods and Inferior Goods

Most of the commodities that we usually buy are normal goods. As a general practice a consumer buys more of such goods, when his income rises and less of it when his income falls. The commodities that follow this rule are called 'Normal Goods'

Normal goods refer to those goods whose demand increases with an increase in income.

For Eg: If the demand for TV increases with a rise in income, then TV will be called a normal good. Income effect is positive in case of normal goods.

Inferior Goods

Inferior goods refers to those goods whose demand decreases with an increase in income. It means, that there exists an inverse relationship between income and the demand for inferior goods. So, income effect is negative in case of inferior goods.

For Eg: If the income of a consumer rises and he prefers to replace his black-and-white TV with a coloured one, then demand of B/W TV will fall. In such case, B/W TV is an inferior good.

Normal Goods Vs Inferior Goods

Basis	Normal Goods	Inferior Goods
Meaning	Normal Goods refer to those goods whose demand increases with an increase in income	Inferior goods refer to those goods whose demand decreases with an increase in income.
Income Effect	Income effect is positive in case of normal goods	Income effects in negative in case of inferior goods
Relation	There is a direct relation between income and demand for normal goods	There is an inverse relation between income and demand for inferior goods
Example	“Full Cream Milk” is a normal good if its demand increases with an increase in income	“Toned milk” is an inferior good if its demand decreases with an increase in income.

Change in Quantity Demanded Vs Change in Demand

Basis	Change in Quantity Demand	Change in Demand
Meaning	When the quantity demanded changes due to a change in the price, keeping other factors constant, it is known as change in quantity demanded	When the demand changes due to change in any factor other than the own price of the commodity, it is termed as change in demand
Effect on Demand Curve	It leads to a movement along the same demand either upwards or downwards	It leads to a shift in the demand curve either rightwards or leftwards.
Reason	It occurs due to an increase or a decrease in the price of the given commodity	It occurs due to change in other factors, like change in prices of substitutes, change in prices of complementary goods, change in income, etc.

Shift in Demand Curve (Change in Demand)

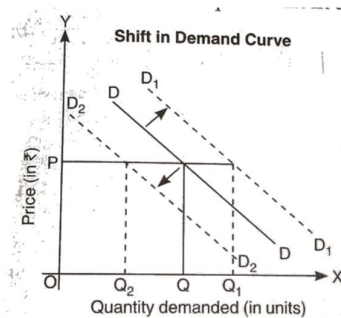
Demand curve is drawn to show the relationship between price and quantity demanded of a commodity, assuming all other factor being constant. However, other factor are bound to change sooner or later. A change in one of ‘other factor’ shift the demand curve.

When the demand of a commodity changes due to change in any factor other than the own price of the commodity, it is known as change in demand.

Various Reasons for Shift in Demand Curve

- i) Change in price of substitute goods
- ii) Change in price of complementary goods
- iii) Change in income of consumers
- iv) Change in tastes and preferences
- v) Expectation of change in price in future
- vi) Change in population
- vii) Change in distribution of income
- viii) Change in season and weather

Let us understand the concept of shift in demand curve with the help of diagram.



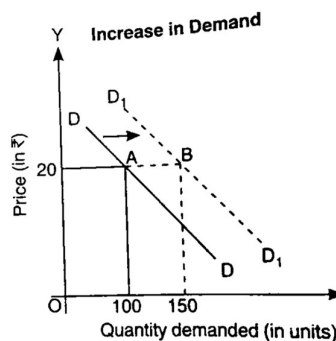
In demand for the commodity is OQ at a price of OP. Change in other factors leads to a rightward or leftward shift in the demand curve:

- Rightward shift: When demand rises from OQ to OQ₁ (known as increase in demand) at the same price of OP, it leads to a rightward shift in demand curve from DD to D₁D₁.
- Leftward shift: On the other hand, fall in demand from OQ to OQ₂ (known as decrease in demand) at the same price of OP, leads to a leftward shift in demand curve from DD to D₂D₂.

Increase in Demand

Increase in Demand refers to a rise in the demand of a commodity caused due to any factor other than the own price of the commodity. In this case demand rises at the same price or demand remains same even at higher price.

Increase in demand leads to a rightward shift in the demand curve.

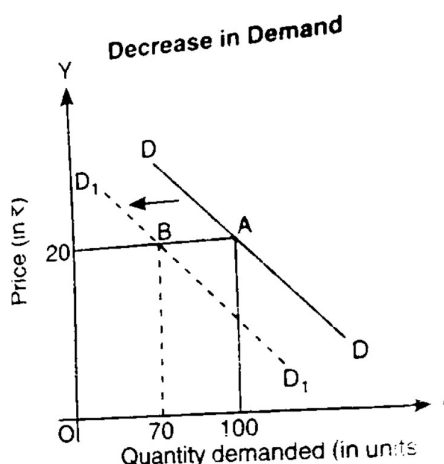


Price (₹)	Demand (units)
20	100
20	150

As seen in the given schedule and diagram, demand rises from 100 units to 150 units at the same price of ₹20, resulting in a rightward shift in the demand curve from DD to D_1D_1 .

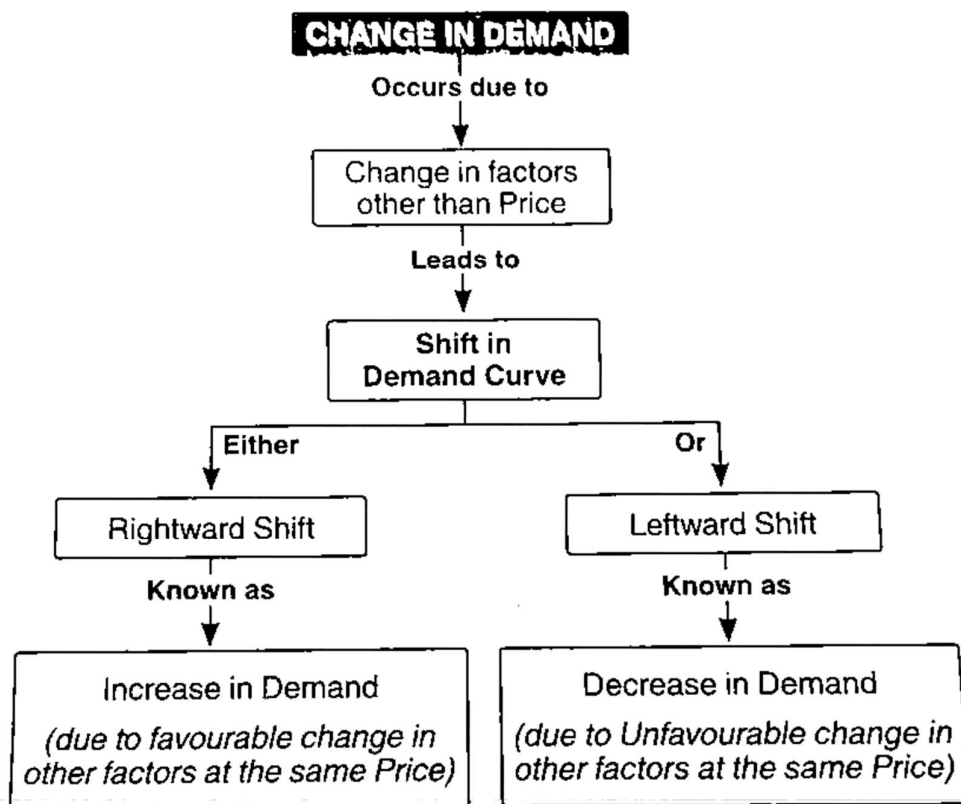
Decrease in Demand

Decrease in Demand refers to a fall in the demand of a commodity caused due to any factor other than the own price of the commodity. In this case, demand falls at the same price or demand remains same even at lower price. It leads to a leftward shift in demand curve.



Price (₹)	Demand (units)
20	100
20	70

As seen in given schedule and diagram, demand falls from 100 units to 70 units at same price of ₹20 resulting in a leftward shift in the demand curve from DD to D_1D_1 .

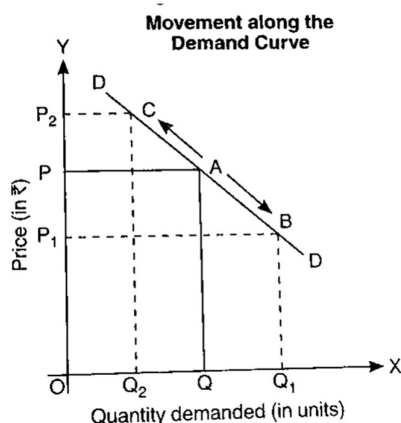


Movement Along the Demand Curve (Change in Quantity Demanded)

When quantity demanded of a commodity change due to a change in its price, keeping other factors constant, it is known as change in quantity demanded. It is graphically expressed as a movement along the same demand curve.

There can be either a downward movement or an upward movement along the same demand curve. Let us understand the movement along the demand curve.

OQ quantity is demanded at a price of OP. Change in price leads to an upward or downward movement along the same demand curve.



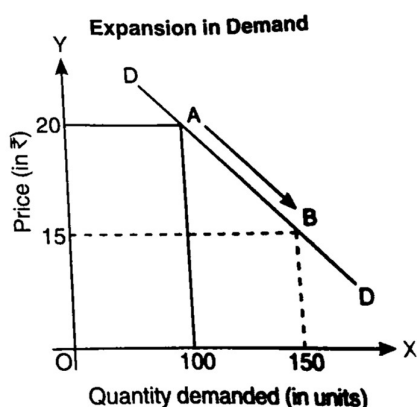
- Upward movement: When price rises to OP₂, quantity demanded falls to OQ₂ leading to an upward movement from A to C along the same demand curve DD.
- Downward Movement: On the other hand, fall in price from OP to OP₁ leads to an increase in quantity demanded from OQ to OQ₁ resulting in a downward movement from A to B along the same demand curve DD.

Expansion in Demand

Expansion in demand refers to a rise in the quantity demanded due to a fall in the price of commodity other factors remaining constant.

- It leads to a downward movement along the same demand curve.
- It is also known as 'Extension in Demand' or 'Increase in Quantity Demanded'.

It can be better understood from table and graph.



Price (₹)	Demand (units)
20	100
15	150

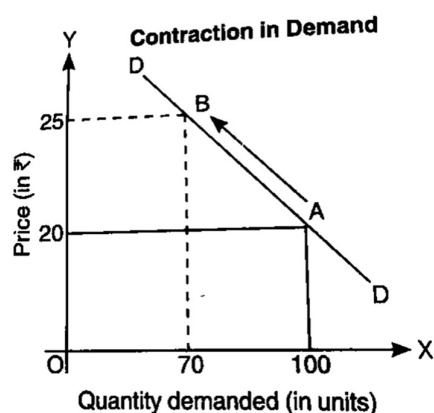
As seen in the given schedule and diagram, the quantity demanded rises from 100 units to 150 units with a fall in the price from ₹20 to ₹15, resulting in a downward movement from A to B along the same demand curve DD.

Contraction in Demand

Contraction in demand refers to a fall in the quantity demanded due to a rise in the price of commodity other factors remaining constant.

- It leads to an upward movement along the same demand curve.
- It is also known as 'Decrease in Quantity Demanded'.

It can be better understood from table and graph



Price (₹)	Demand (units)
20	100
25	70

As seen in the given schedule and diagram, the quantity demanded falls from 100 units to 70 units with a rise in the price from ₹20 to ₹25, resulting in an upward movement from A to B along the same demand curve DD.

