

The law can be explained with the help of a table and diagram-3.1 below:

<i>Units (Apples)</i>	<i>TU</i>	<i>MU</i>
1	10	10
2	18	8
3	22	4
4	24	2
5	25	1
6	25	0
7	32	-7
8	44	-12

As the consumer goes on consuming more and more units of apples, total utility (TU) increases but marginal utility (MU) declines continuously and becomes zero at 6th unit. When consumer consumes further, utility becomes negative. It is to be noted that when TU is maximum, MU is zero. Let us now derive the MU curve from the above schedule as under. Marginal utility is measured along Y-axis while units of apples along X-axis. MU is the marginal curve falling downwards from left to right. This is diminishing MU curve. It is seen in the Fig. 3.1 below, that marginal utility is zero when the consumer buys 6th apple. As he consumes more, marginal utility becomes negative.

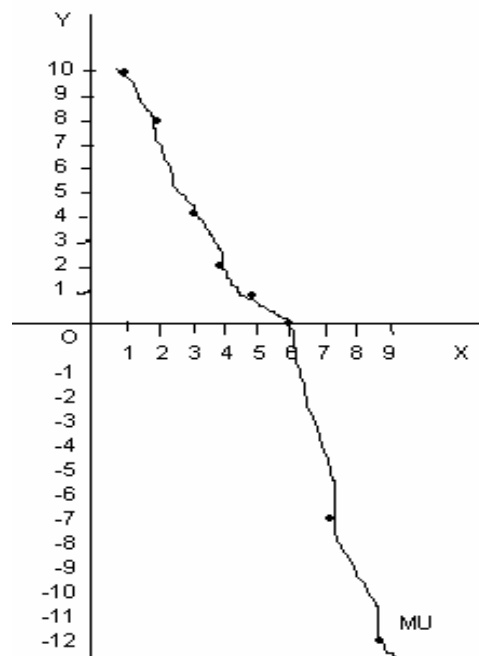


Fig. 3.1

The law of diminishing MU has certain limitations. These are:

1. If units of a commodity consumed are not of same size and shape, the law does not

hold good. In the illustration explained above, units of apples are assumed to be of same shape and size.

2. The law does not hold good when there is enough time gap between consumption of two units. For instance, if we take second apple after a long gap of time, we may feel hungry and hence satisfaction will increase instead of falling.
3. The taste of consumer should not change for the law to hold good. It means that the person should consume all units of a good by same desire and pleasure.
4. The law does not apply to money as it is said that more money a person has, the more he wants.
5. Change in income of the consumer will falsify the law. If money income of the consumer increases or decreases during the time of consumption of a particular set of goods, the marginal utility will not fall as said above.

The law of diminishing marginal (additional) utility explains consumer's equilibrium in case of a single commodity. A consumer will go on purchasing successive units of a commodity till the marginal utility of the commodity is equal to price. Thus, for a single commodity x , a consumer is in equilibrium when the marginal utility of x is equal to its market price (P_x). Symbolically,

$$MU_x = P_x$$

In case the price goes down, he will buy more and the marginal utility will come down to the level of price. If price rises, less will be purchased and the marginal utility rises till it reaches the new level of price. Thus, equality between marginal utility and price indicates the position of consumer's equilibrium when a single commodity is being purchased and consumed.

Questions for Review

1. State the law of diminishing marginal utility.
2. Define total utility.
3. Define marginal utility.
4. How is total utility derived from marginal utilities? (NCERT)
5. What does rationality of consumers mean?
6. Is satisfaction measurable?
7. Define utility.
8. Show that utilities of various goods are additive.
9. Explain law of diminishing marginal utility with the help of diagram.
10. Why does marginal utility diminishes?
11. What are the assumptions of the law of diminishing marginal utility?
12. Does the law apply to money?
13. What is the condition for a consumer's equilibrium? Explain.

4

DEMAND AND LAW OF DEMAND

UNIT-2

MEANING OF DEMAND

In Economics, Demand means desire to have a commodity backed by enough money to pay for the good demanded. Thus, in economics we are concerned only with demand, which is effectively backed up by an adequate supply of purchasing power, i.e., with effective demand. Thus, if a person desires to buy a car, he should have enough money to buy that; then only demand becomes effective. It should also be mentioned here that demand is not complete unless the consumer has willingness to buy a good or service. A person has the desire and enough money but at a particular point of time, he may not have willingness to buy the good due to sudden change in his taste or preference. For example, when a person goes to a showroom to buy his dream car but declines to buy, just because he does not find his preferred colour. Moreover, demand for a good is always expressed in relation to a particular price and a particular time. Therefore, we may define demand for a good as the amount of it, which will be purchased per unit of time at a given price. According to F. Benham, “*The demand for anything at a given price is the amount of it which will be bought per unit of time at that price.*” Another good definition of demand, given by Bober is—“*the various quantities of a given commodity or service which consumers would buy in one market in a given period of time at various prices, or at various incomes, or at various prices of related goods.*,” constitute demand. Demand, in economics, always refers to a schedule. It is not a single quantity. The quantity which is purchased at some particular price is called the quantity demanded.

MARKET DEMAND

Market demand is the total sum of the demands of all individual consumers, who purchase the commodity in the market. A market demand schedule is shown as under:

Price (per unit)	A's demand	B's demand	C's demand	Market demand (A + B + C)
1	8	9	10	27
2	7	6	9	22
4	6	4	8	18

6	5	3	7	15
8	4	2	6	12
10	3	1	5	9

Let us assume that there are three consumers—A, B and C. Their individual demand schedule is shown in 2nd, 3rd and 4th columns respectively. Market demand is the sum of A's, B's and C's demand of, say, apples. We find that the market demand schedule also behaves in the same way as an individual's demand for a commodity. That is, at lower price, demand is more and vice versa.

A market demand curve is the graphical representation of market demand and is derived by the lateral/horizontal summation of all individuals' demand curve in the market as shown in the Fig. 4.1. As the individual's demand curve slope downward from left to right, the market demand curve also slopes downward to the right.

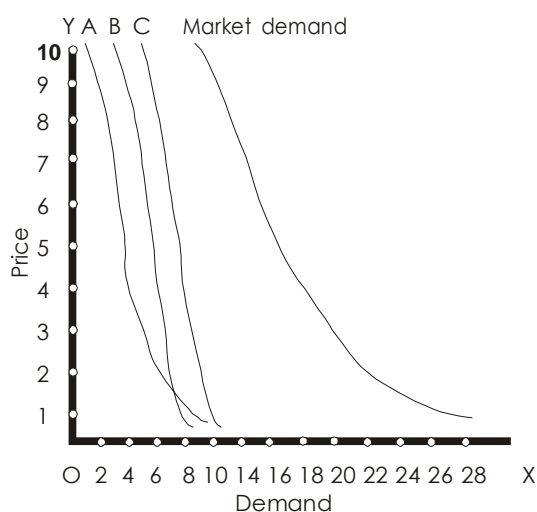


Fig. 4.1

DETERMINANTS OF DEMAND

Demand for a product depends upon a number of factors. The most important of these are—the price of the product, income of the consumer, tastes and fashion and the prices of related goods. We can put it in the functional form as:

$$D_x = f(P_x, I, P_y, T, F\dots)$$

Where D_x = demand of good x ; P_x = price of good x ; I = income of the consumer; P_y = prices of related goods; T = tastes and F = fashion.

Thus, demand for a commodity depends upon the following factors:

- 1. Price of the commodity:** Price of a commodity is an important factor that determines demand for a commodity. When price of a commodity rises, consumers buy less and when prices fall, demand increases. Here, we assume other things (factors) to be remaining constant, i.e, *ceteris paribus*.

2. **Income of the consumer:** The demand for goods depends upon the incomes of the people. The greater the income, the greater will be the demand for a good. More income means greater purchasing power. People can afford to buy more when their incomes rise. On the other hand, if income falls, demand for a commodity also decreases.
3. **Prices of related goods:** Related goods are of two types—substitute and complements. Substitute goods can be interchangeably used. For example, tea and coffee are substitute goods. If tea is dearer, one can use coffee and vice versa. Complementary goods are demanded together as bread and butter or car and petrol.

When price of a substitute for a good falls, the demand for that good declines and when price of substitute rises, the demand for that good increases. In case of complementary goods, the change in the price of any of the two goods also affects the demand of the other. For instance, if demand for two-wheelers fall, the demand for petrol also goes down.

4. **Taste and preferences of the consumer:** These are important factors, which affects the demand for a product. If tastes and preferences are favourable, the demand for a good will be large. On the other hand, when any good goes out of fashion or people's tastes and preferences no longer remain favourable, the demand decreases.

DEMAND SCHEDULE AND DEMAND CURVE

A demand schedule is a tabular statement that shows the different quantities of a commodity that would be demanded at different prices. It expresses what quantities of a good will be purchased at different possible prices. A demand schedule is shown as below:

<i>Price of apples per unit (in Rs.)</i>	<i>Quantity demanded (in nos.)</i>
8	5
6	7
4	8
2	10

It is clear from the table, that when price of an apple is Rs. 8/- the consumer demands 5 apples and when price falls to Rs. 2/- each, demand of apples goes up to 10 units. Thus, price and quantity demanded shows inverse relationship.

On the basis of the above demand schedule, we can derive an individual's demand curve. A Demand curve is the graphical representation of the demand schedule. This is shown in Fig. 4.2 below. Prices of apples are measured along Y-axis and quantities demanded along X-axis. A, B, C and D are the different combinations of price and quantity demanded. Joining these points, we get the demand curve *dd* sloping downwards to the right, indicating inverse relationship between price and quantity demanded.

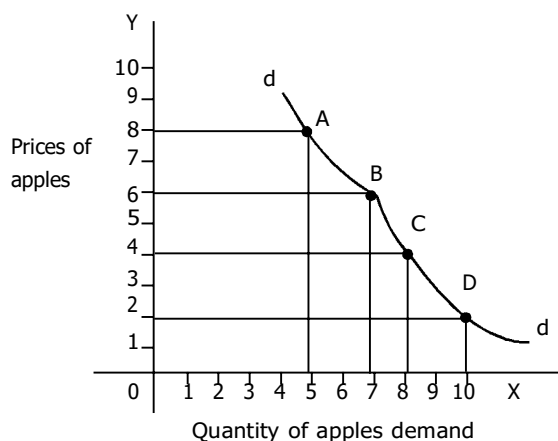


Fig. 4.2

LAW OF DEMAND

The law of demand expresses the functional relationship between price and quantity demanded of a good. It is one of the most important laws of economic theory. According to this law, other things remaining constant (*ceteris paribus*), if the price of a commodity falls the quantity demanded of it will rise and if price of the good rises quantity demanded will fall. Thus, there is inverse relationship between price and quantity demanded. Thus, we buy more units of apple when its price comes down from Rs. 4 per unit to Rs. 2 per unit. Law of demand only applies when certain conditions are met, which have been mentioned as under.

Assumptions of the law

The law of demand assumes the following:

1. Incomes of consumers do not change. If consumer's income increases or decreases, the law will not hold good.
2. People's tastes and preferences remain unchanged; and
3. Prices of substitutes and complements do not change.

The law of demand can be explained with the help of a demand schedule and through a demand curve. A demand schedule is shown as under.

Price of apples per unit (in Rs.)	Quantity demanded (in nos.)
8	5
6	7
4	8
2	10

It is seen in the table that when the price of the commodity is Rs. 8/- per unit, consumers buy 5 units only and at Rs. 2/- per unit, they buy 10 units of the commodity. Thus, as price goes