of Equi. Marginal Utility".

LAW OF DIMINISHING MARGINAL UTILITY (DMU)

Before we explain this law, we clarify the meanings of utility and marginal utility.

Simply by utility we mean, the power of a good to satisfy human want. i.e, the water has a power to quench one's thirst and a movie has a power to provide enjoyment etc. For our discussion, by utility we mean "The Satisfaction". As we told above that the classical economists are of the view that the utility or satisfaction depends upon the units of a particular good. It is as: U = f (Q) or TU = f (Q). This is called utility or total utility function. Moreover, as we know that utility can be expressed into numbers i.e, if a consumer drinks a glass of milk, the satisfaction he obtains can be represented into the numbers like 2, 4, 6, 10, 15, 20 etc. Now we explain the concept of marginal utility.

By *"Marginal Utility (MU) we mean the net change in total utility by having consumed an additional unit of a commodity"*.

For example a consumer is using the units of apple, if the total utility of Ist apple is 10 units while the total utility goes to 18 units if he uses the two apples, then the net change in total utility or marginal utility is 8.

Now a days, it is said that MU is the derivative of total utility function or it is the slope of TU curve. It is as: $U = f(Q)$. Then its derivative will be $MU = \frac{dU}{dQ} = \frac{\Delta U}{\Delta Q}$, where $d = \Delta$ = change. After having given the concepts of utility and marginal utility, we introduce the law of DMU. This law is based upon a common reality of life, *"The more we have of any commodity, the desire to get any more of it decreases"*. Technically this law is stated as: *"When a consumer goes on to use the units of a good, the total utility derived from the units of the good increases at a decreasing rate"* In other words: *"Alongwith successive and continuous use of any commodity the marginal utility derived from the units of the commodity goes on to fall".*

From both the definitions we deduce the followings:

(1) Alongwith increase in use of any commodity, TU increases at a decreasing rate, hence MU decreases.

(2) When total utility reaches maximum, MU because zero. This situation is called point of saturation or point of satiety.

(3) When total utility itself falls, MU becomes negative.

All this phenomenon is presented with the help of a schedule and diagram. In this context, we get the assistance of a specific quadratic utility function which encompasses all of above relationships. The standard total utility function corresponding to above said law is:

$U = aQ - bQ^2$

On such lines a specific utility function is as: $U = 11Q - Q^2$

By assuming different values of 'Q' we can find the values of 'U' and then values of MU will be attained. It has been done on next page.

Q	U	$MU = \frac{\Delta U}{\Delta Q}$	
1 } $\Delta Q=1$	10 } $\Delta U=8$	10	MU falls but it is + ve.
2	18	8	
3	24	6 ←	
4	28	4	
5	30	2	
6	30	0 ←	TU Maxi, MU = 0
7	28	−2 ←	TU falls MU = − ve.

$U = 11Q - Q^2$	$U = 11(1) - (1)^2 = 10$
$U = 11(2) - (2)^2 = 18$	$U = 11(3) - (3)^2 = 24$
$U = 11(4) - (4)^2 = 28$	$U = 11(5) - (5)^2 = 30$
$U = 11(6) - (6)^2 = 30$	$U = 11(7) - (7)^2 = 28$

The table on the last page has been constructed with the values of Q and U By plotting these values in the graph, we get TU curve as well as MU curve in Fg.1.

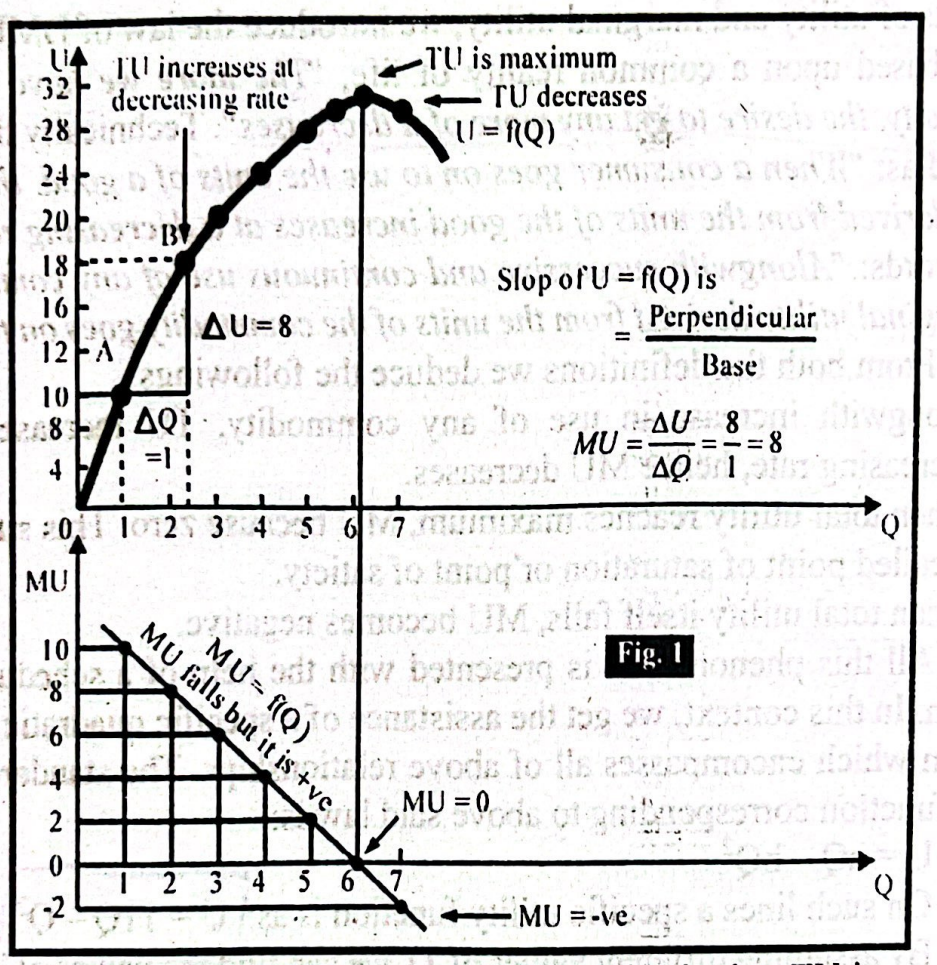

Fig. 1

Reference Fig.1, we find that: (1) In the beginning TU increases at a decreasing rate, hence MU falls but it is still +ve. (2) When TU is maximum MU = 0 which is saturation point for the consumer. (3) When TU falls, MU = –ve. This situation shows that consumer is no more desirous for additional units of the good concerned.

Assumptions of the Law of DMU

The law of DMU will hold true in the presence of following assumptions:

(1) There should be a continuous use of the commodity which a consumer is consuming.
(2) All the units of the commodity in use must be similar.
(3) The unit of good must be of a suitable amount.
(4) The taste of consumer should remain the same.
(5) The income of the consumer should not change.

LAW OF EQUI MARGINAL UTILITY FOR CONSUMER