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Consumer's Equilibrium and Demand

Introduction to Consumer's Equilibrium

A consumer is one who buys goods and services for satisfaction of wants. The objective of a consumer is to get maximum satisfaction from spending his income on various goods and services, given prices. Suppose a consumer wants to buy a commodity. How much of it should he buy? Two approaches are used for getting an answer to this question. These are:

1. Utility approach
2. Indifference curve approach

Consumer's equilibrium with utility approach

Utility—Different Concepts

1. Utility. Utility does not mean usefulness. The term utility refers to the want satisfying power of a commodity. **It means realised satisfaction to a consumer when he is willing to spend money on a stock of commodity which has the capacity to satisfy his want**. Expected satisfaction is different from realised satisfaction. Realised satisfaction takes place only after the commodity has been consumed. Expected satisfaction takes place when the commodity has not been bought but the consumer is willing to buy it. A commodity has utility for a consumer even when it is not consumed. Further, the same commodity has different utility for different persons, and also to the same person at different points of time. Utility is essentially a subjective concept depending upon the intensity of consumer's desire or want for that commodity at that time. Thus, utility differs from person to person, place to place and time to time. Utility is a cardinal concept i.e., it can be measured. Benham formulated the unit of measurement of utility as utils (i.e., say consumption of 2 units of X gives 10 utils). According to Marshall, money should be used to measure utility (i.e., say consumption of 2 units of X give utility worth ` 10).

2. **Total Utility (TU). It is the sum of all the utilities that a consumer derives from the consumption of a certain amount of a commodity.** Mathematically, TU can be obtained by the sum of marginal utilities from the consumption of different units of the commodity.

$$TUn = MU1 + MU2 + ...+ MUn$$

3. **Marginal Utility (MU). It is addition made to the total utility as consumption is increased by one more unit of the commodity.** Mathematically, it is calculated as:

$$MUn = TUn – TUn – 1$$

or $MU = \frac{\Delta TU}{\Delta X}$

Table 2.1 **Relationship between Total and Marginal Utility**

Quantity of X	TU_X (Utils)	MU_X (Utils)
0	0	—
1	8	8 = (8 – 0)
2	14	6 = (14 – 8)
3	19	5 = (19 – 14)
4	23	4 = (23 – 19)
5	26	3 = (26 – 23)
6	28	2 = (28 – 26)
7	29	1 = (29 – 28)
8	29	0 = (29 – 29)
9	27	–2 = (27 – 29)

Table 2.1 provides the following information:

1. As the consumer has more of the good, the TU increases less than in proportion and the MU gradually declines but is positive.
2. When TU is maximum, called saturation point, MU is zero.
3. When TU falls, MU becomes negative.
4. If consumer is rational, he will stop at 8 units. This is because if he consumes more than 8 units, then TU will decline and MU will become negative (the good will give disutility).

5. If any one of the schedule is given, the other can be easily derived as:

$MU_n = TU_n - TU_{n-1}$

and TU_n is the sum of the MU till n^{th} level *i.e.*,

$TU_n = MU_1 + MU_2 + ...+ MU_n$

4. Relationship between *TU* and *MU* Curves

The relationship is as follows:

(*a*) *TU* curve starts from the origin, increase at a decreasing rate, reaches a maximum and then starts falling.

(*b*) *MU* curve is the slope of the *TU* curve, since

$MU = \frac{\Delta TU_x}{\Delta Q_x}$

(*c*) When *TU* is maximum, ***MU* is zero**, it is called **saturation point**. (since slope of *TU* curve at that point is zero). Units of the good are consumed till the saturation point.

(*d*) As long as *TU* curve is concave, *MU* curve is downward sloping and remains above the *x*-axis.

(*e*) When *TU* curve is falling, *MU* curve becomes negative.

(*f*) The falling *MU* curve shows the law of diminishing marginal utility.

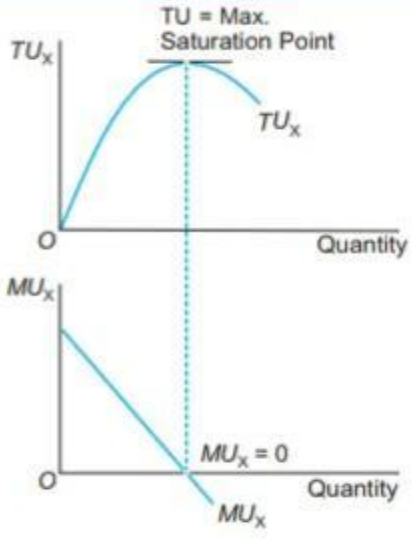

Fig. 2.1 Relationship between Total and Marginal Utility Curves