

CONSUMER'S EQUILIBRIUM

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Abstract- The aim of this paper is to make you understand “How does a consumer maximize his satisfaction from consumption of goods and services. As the resources are limited in relation to unlimited wants a consumer has to follow some principles and laws in order to attain the highest satisfaction level. The two main approaches to study consumer's behaviour and consumer's equilibrium are “Cardinal Utility Approach” and “Ordinal Utility Approach”. We will study about them in detail. This paper will also tell us about the concept of utility in which we will discuss about total utility, marginal utility and relationship between both of them.

Index Terms- Cardinal and Ordinal utility approach, Relationship between Total and Marginal utility, law of Diminishing marginal utility and Consumer equilibrium in single and two Commodities.

I. INTRODUCTION

A consumer is the main decision maker of consumption pattern. A consumer is one who buys goods and services for satisfaction of wants. He takes decisions with regards to the kind of goods to be purchased in order to satisfy his wants. The main objective is to get the maximum satisfaction from spending his income on various goods and services. The two main approaches to study consumers equilibrium are:-

1. Cardinal Utility Approach (or Marshall's Utility Analysis or Marginal Utility Analysis)
2. Ordinal Utility Approach (or indifference curve analysis)

II. CARDINAL UTILITY APPROACH

People consume different goods and services in order to maximize the satisfaction level. However to do this it is necessary to determine quantum of satisfaction obtained from a particular commodity. Under the cardinal utility approach the concept of utility is used to attain the consumer's equilibrium.

III. CONCEPT OF UTILITY

Although the concept of ‘taste’ and ‘satisfaction’ are familiar for all of us, it is much more difficult to express these concepts in concrete terms. For

example, suppose you have just eaten an ice-cream and a chocolate. Can you tell how much are you satisfied from each of these items? Probably you can tell which item you liked more. But, it is very difficult to express “how much” you liked one over the other. It is evident, that we need a more quantitative measure of satisfaction. Due to this reason, economists developed the concept of utility.

IV. RELATIONSHIP BETWEEN TOTAL UTILITY (TU) AND MARGINAL UTILITY (MU)

When a consumer goes on to consume the units of a commodity continuously the marginal utility derived from the successive units of the commodity goes on to fall constantly while other factors are held constant.

From the above statement regarding the consumer behavior the relationship between total utility (TU) and marginal utility (MU) is deduced as under:

1. MU is the rate of change of TU. When the MU decreases, TU increases at decreasing rate.
2. When MU becomes zero, TU is maximum. It is a saturation point.
3. When MU becomes negative, TU decline

The standard quadratic form of the TU function is written as follows:

$$TU = aQ - bQ^2$$
$$\text{and } MU = dTU / dQ = a - 2bQ$$
$$\text{Slope of } MU = dMU/dQ$$

V. LAWS OF DIMINISHING MARGINAL UTILITY

A law of economics stating that as a person increases consumption of a product - while keeping consumption of other products constant - there is a decline in the marginal utility that person derives from consuming each additional unit of that product.

VI. ASSUMPTIONS OF LAW OF DIMINISHING MARGINAL UTILITY

1. Cardinal measurement of utility:

It is assumed that utility can be measured and a consumer can express his satisfaction in quantitative terms such as 1, 2, 3, etc.

2. Monetary measurement of utility:

It is assumed that utility is measurable in monetary terms.

3. Consumption of reasonable quantity:

It is assumed that a reasonable quantity of the commodity is consumed.

1. Continuous consumption:

It is assumed that consumption is a continuous process. For example, if one ice-cream is consumed in the morning and another in the evening, then the second ice-cream may provide equal or higher satisfaction as compared to the first one.

5. No change in Quality:

Quality of the commodity consumed is assumed to be uniform. A second cup of ice-cream with nuts and toppings may give more satisfaction than the first one, if the first ice-cream was without nuts or toppings.

6. Rational consumer:

The consumer is assumed to be rational who measures, calculates and compares the utilities of different commodities and aims at maximising total satisfaction.

7. Independent utilities:

It is assumed that all the commodities consumed by a consumer are independent. It means, MU of one commodity has no relation with MU of another commodity. Further, it is also assumed that one person's utility is not affected by the utility of any other person.

8. MU of money remains constant:

As a consumer spends money on the commodity, he is left with lesser money to spend on other commodities.

9. Fixed Income and prices:

It is assumed that income of the consumer and prices of the goods which the consumer wishes to purchase remain constant.

VII. CONSUMER'S EQUILIBRIUM

All consumers strive to maximize their utility. We try to get as much satisfaction as we can. The consumer's scale of preference is derived by means of indifference mapping that is a set of indifference curves which ranks the preferences of the consumer. Getting to the indifference curve which is farthest from the origin gives the highest total utility. Although the goal of the consumer is maximization of satisfaction, the means of achieving the goal is not clear. Higher indifference curve not only gives higher satisfaction but also are more expensive. Here we are confronted with the

basic conflict between preferences and the prices of the commodities consumer wants to consume. With a given amount of money income to spent, we cannot attain the highest satisfaction but have to settle for less.

VIII. CONSUMER'S EQUILIBRIUM IN CASE OF SINGLE COMMODITY

A consumer purchasing a single commodity will be at equilibrium, when he is buying such a quantity of that commodity, which gives him maximum satisfaction. The number of units to be consumed of the given commodity by a consumer depends on 2 factors:

1. Price of the given commodity
2. Expected utility (Marginal utility) from each successive unit.

IX. CONSUMER'S EQUILIBRIUM IN CASE OF TWO COMMODITIES

The Law of DMU applies in case of either one commodity or one use of a commodity. However, in real life, a consumer normally consumes more than one commodity. In such a situation, 'Law of Equi-Marginal Utility' helps in optimum allocation of his income.

Law of Equi-marginal utility is also known as:

- (i) Law of Substitution;
- (ii) Law of maximum satisfaction;
- (iii) Gossen's Second Law.

X. ORDINAL UTILITY APPROACH

The basic idea behind ordinal utility approach is that a consumer keeps number of pairs of two commodities in his mind which give him equal level of satisfaction. This means that the utility can be ranked qualitatively.

The ordinal utility approach differs from the cardinal utility approach (also called classical theory) in the sense that the satisfaction derived from various commodities cannot be measured objectively.

Ordinal theory is also known as neo-classical theory of consumer equilibrium, Hicksian theory of consumer behaviour, indifference curve theory, optimal choice theory. This approach also explains the consumer's equilibrium who is confronted with the multiplicity of objectives and scarcity of money income.

The important tools of ordinal utility are:

1. The concept of indifference curves.
2. The slop of I.C. i.e. marginal rate of substitution.

XI. MEANING OF INDIFFERENCE CURVE

An indifference curve is a graph showing combination of two goods that give the consumer equal satisfaction and utility. Each point on an indifference curve indicates that a consumer is indifferent between the two and all points give him the same utility.

XII. MARGINAL RATE OF SUBSTITUTION

The marginal rate of substitution is the rate at which a consumer is ready to give up one good in exchange for another good while maintaining the same level of utility. At consumption levels, our marginal rates of substitution are identical.

Under the standard assumption of neoclassical economics that goods and services are continuously divisible, the marginal rates of substitution will be the same regardless of the direction of exchange, and will correspond to the slope of an indifference curve passing through the consumption bundle in question, at that point: mathematically, it is the implicit derivative.

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