

Business Economics

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UNIT - II

Law of demand and demand curves – Types of demand – Concept of elasticity – Methods of measuring price elasticity of demand – relationship between price elasticity and sales revenue.

Demand Analysis

Want or desire to have something is not demand is not demand not demand. A poor man's desire to have a car is not demand. In economics, demand means desire, backed by willingness and ability to pay. A rich man's desire to have a car is demand. Demand also implies the amount to be purchased at a time.

Definition

“demand is the quantitative expression of preferences”.

- CHAPMAN

Kinds of Demand

The demand for a commodity for a commodity varies according to change in income, price and also price of related commodities. As such,

Demand is classified into:

- Price Demand
- Income Demand

- Cross Demand
- Indirect Demand
- Joint Demand
- Composite Demand
- Alternate Demand

The Law of Demand

Demand reacts to price. When price falls demand expands. When price rises demand falls. Such a relationship between price and demand is called the law of Demand. It is based on the law of diminishing marginal utility.

Statement of the law of demand

The law of demand explains the relationships between price and quantity demanded of a commodity assuming other factors affecting the demand to be constant. Marshall states the law as follows: “The amount demanded increases with a fall in price and diminishes with a rise in price”.

Explanation:

A consumer may demand one kilo of mangoes at Rs.20 per kilo. He may demand two kilos of mangoes if the price is Rs.15. Generally, a consumer buys more at lower price. In simple terms, the law of demand states that, other things being equal, more will be demanded at lower prices than at higher prices.

Individual demand schedule

A demand schedule is a list which shows the quantities demanded at different price levels.

price	demand
Rs.20	2 Units
Rs.15	4 Units
Rs.10	6 Units
Rs. 5	8 Units

The demand schedule reveals that the consumer demands more at lower price. When price is Rs.20\ -per unit, a consumer purchases 2 units. When price falls to rs.15\ - he purchase 4 units. The above table depict the inverse relationship between price and demanded.

Demand curve

The diagrammatic presentation of a demand schedule is called a demand curve. It is a curve which explain the relationship between price and quantity demanded.

Market demand schedule

When we add up the various quantities demanded by the number of consumers in the market, we can obtain the market demand schedule.

Market Demand schedule

Price (Rs.)	Individual Demand			Market Demand
	A	B	C	
1	7	10	15	32
2	6	9	14	29
3	5	8	13	26
4	4	7	12	23
5	3	6	11	20
6	2	5	17	17

When we add consumers (A.B and C) demand at each price, we get the total market demand. Thus, when the price is Rs.1 per unit, the demand for the commodity in the market is 32 units (i.e., 7+10+15). When price increases to Rs.2, the market demand is 29 units. At price Rs.6. the market demand is only 1units.

Market demand curve

It is the graphical presentation of market demand schedule that gives the market demand curve, is the lateral summary of individual demand curves. Like the individual demand curve, the market demand curve also slope downwards to the right. Further, a fall in the quantity demand in the market.

Assumptions

The law of demand is based on the following assumptions:

1. There should be no change in the taste and preference of the consumers.
2. Consumers income should not change.
3. Prices of other goods should remain constant.
4. There should be no substitute for the commodity.

Why does the demand curve slope downwards?

- 1) Law of diminishing marginal utility.
- 2) Price effect.
- 3) Income effect.
- 4) Substitution effect.
- 5) Psychological effect.
- 6) Different uses.
- 7) Equalisation of marginal utility.

Exceptional demand curve.

Generally, a demand curve slopes downwards from left to right. But, an exceptional demand curve goes upward from left. It shows the direct relationship between price and quantity demanded.

Reasons

1. People may demand more of a commodity at a high price because of ignorance.

2. When the price of necessities like rice and wheat goes up, the lower-income groups demand more. This is the famous Giffenparadox. It implies that at higher price the demand for staple food increases.
3. People may buy more at a higher price to show their higher price because of fear of acute shortage of that commodity.
4. Demand may expand when the price goes up, if the commodity is in fashion.
5. Speculators buy more at a higher price expecting further rise in price to get more profit.

Change in Demand (conditions of demand)

Till now we have assumed that the determinations of demand other than price than price remains constant. Let us analysis the factors leading to change in demand.

- ❖ Change population.
- ❖ Changes in income.
- ❖ Change in real income.
- ❖ Change in distribution of income.
- ❖ Change in tastes and fashions.
- ❖ Changes in the price of other goods.
- ❖ Change in climates.
- ❖ Cyclical changes.

Increases and decreases in demand

The demand for a commodity changes not only due to change in its price but also due to change in the factors other than price. The other factors are price of related goods, income of the consumer, taste and preference of the consumers, price of substitutes etc. thus, if demand changes due to factors other than change in price, it is known as 'increase or decrease in demand'.

Extension and contraction of demand

If demand changes due to changes in price alone it is described as 'extension and contraction in demand. It does not lead to the formation of a new demand curve. It is represented by movements up down on a given demand curve. For example, when we move from prices to higher prices, we move up the demand. it is 'contraction in demand'. On the other hand, when the curve demand curve. It is 'extension in demand'.

Elastic demand

The law of demand explains the relationship between price and quantity demanded. It relationship between price and quality demanded. It shows the direction in which demand changes to a given change in price. It does not explain the rate or the degree at which demand changes to changes in price. The credit of solving this problem goes to Marshall, who introduced the concept of elasticity of demand.

Elastic Demand

When a fall in price leads to a more than proportionate change in the quantity demanded, the demand is said to be elastic or relativity elastic. In other words, if a small change in price leads to a greater change in demand, it is 'elastic demand'.

In elastic demand

When a change in price leads to a less than proportionate change in quantity demanded, it is said to be relativity less or inelastic demand. In order words, if greater change in price leads to a small or no change in demand, it is a case of 'in elastic demand'.

Types of inelastic of demand

There are three kinds of elasticity of demand. They are;

Price elasticity of demand - it shows the responsiveness in demand to a change in price.

Income elasticity of demand – it refers to a change in demand to change in income of the consumer.

Cross elasticity of demand – it indicates the change in the demand for commodity X due to change in the price of commodity Y.

Price elasticity of demands

Elasticity means responsiveness of one variable to another. Price elasticity of demand means responsiveness in quantity demanded to responsiveness in price. According to Bouldings, “the elasticity of demand measures the response of the demand for the commodity change in price”. In other words, it is the ratio percentage of change in price. It may be stated as follows;

$$E_p = \frac{\text{change in amount demanded}}{\text{Change in price}}$$

$$E_p = \frac{\text{relative change in quantity demanded}}{\text{relative change in price}}$$

$$E_p = \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$$

Where;

E_p = price elasticity of demand

ΔQ = change in quantity demanded

ΔP = change in price

Kinds of elasticity of demand

The degree responsiveness in demand to change in price of different commodities is different. As such, their elasticity of demanded will be different. The following are the different kinds of price elasticity of demand.

1. Perfectly elastic demand
2. Perfectly inelastic demand
3. Unitary elastic demand
4. Relating elastic demand
5. Relatively inelastic demand

Methods of measuring elasticity demand

There are four methods of measuring price elasticity of demand. They are;

1. Percentage method
2. Total outlay method
3. Point method
4. Arc method

Determinants of elasticity of demand

The following are the important determinants of price elasticity of demand.

- i. Price range
- ii. Substitutes
- iii. Proportion of income spent
- iv. Nature of the product
- v. Time period
- vi. Habits
- vii. Uses of a commodity
- viii. Complements or jointly demanded goods
- ix. Raw materials and finished goods
- x. Perishable and durable goods

Income elasticity of demand

Income elasticity of demand is the degree of responsiveness in quantity demanded to a change in income of the consumer. In short, it refers to change in demand due to change in the income. In symbol,

$$E_y = \frac{\text{change in demand}}{\text{Change in income}}$$

$$= \frac{\Delta n}{n} + \frac{\Delta v}{v} \text{ or } \frac{\Delta n}{n} \cdot \frac{\Delta v}{v} \cdot F \cdot @$$

1. Unitary Income Elasticity.
2. Greater than one.
3. Less than one.

Cross elasticity of demand

When a change in the price of one commodity demands to change in the demand for another commodity, it is called 'cross elasticity of demand'.

Symbolically,

$$E_e = \frac{\Delta Q}{Q} \div \frac{\Delta P}{P_y} \cdot Q_x$$

If two goods are 'perfect substitutes' for each other, cross elasticity is infinite.

If two goods are totally unrelated, cross elasticity between them is zero.

If the two goods are substitutes (like tea and coffee), the cross elasticity is positive.

If two goods are complementary (like tea and sugar), the cross elasticity between them is negative.

Importance or uses of price elasticity of demand

The concept of elasticity of demand has significance role to play in economic theory and practice.

- I. Elasticity of demand is considered in price determined under monopoly / imperfect competition. A monopoly fixes high price if elasticity of demand for his price is low and vice versa.
- II. The rate of exchange between different currencies upon elasticity of demand for currencies.
- III. The effectiveness of price controls also depends upon elasticity of demand.
- IV. Prices of joint products are fixed on the basis of their elasticity of demand.
- V. Elasticity of demand is helpful in forecasting demand by the business concerns.
- VI. Price discrimination is possible only if markets are divided on the basis of elasticity of demand.
- VII. Devaluation of a currency is made to boost exports. But it is possible only if its goods and services have less or inelastic demand in the foreign market.

Relationship between TR, AR, MR and elasticity of demand

1. When elasticity is equal to one ($E_p = 1$) TR is maximum and MR is zero.
2. When elasticity is greater than one ($E_p > 1$) TR increases at a diminishing rate and MR declines continuously.
3. When elasticity is less than one ($E_p < 1$) TR declines and MR is negative.