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Demand, Supply Equilibrium and ways of Government Intervention

AAT Level I

ECN - Economics

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CHAPTER 02

CONSUMER BAHAVIUOR AND MARKETS

Utility

What is meant by utility?

The satisfaction received by consuming goods and services .It is a psychological phenomenon that differs from individual to individual, time to time and place to place.

Name 2 different utility theories.

- Cardinal theory of utility (Alfred Marshall)

- Ordinal theory of utility (john R Hicks)

Explain the cardinal theory of utility?

According to this theory utility is a measurable and quantifiable theory .Therefore it is also known as marginal utility of theory.

Here, Furthermore two different concepts are existed those are,

1. Total utility – It refers to the total satisfaction obtained from the amount of the particular product is consumed.

2. Marginal utility –It refers to the change in satisfaction resulting from consuming a little more /little less of a particular product.

What is meant by the law of diminishing marginal utility?

The utility that any can consumer derives from successive units of a particular product diminishes as total consumption of the product increases while the consumption of all other product remains constant.

Example:

A consumer is buying and consuming a particular laddu in a particular time while consumption of all other goods remain constant.

Now, that is explained in the tabular presentation and graphical presentation about diminishing marginal return.

Tabular presentation:

Units of laddu consumed	Total utility	Marginal utility

Graphical presentation

What are the 2 conditions should be fulfilled for consumer equilibrium?

1.

2.

Example:

Following information is given

- A consumer has disposable income of Rs. 80, he buys 2 goods.
- The price of A is Rs.5 and the price of B is Rs.10.

Units of goods	MU (A)		MU (B)	
1	-		-	
2	80		300	
3	70		200	
4	50		100	
5	30		50	
6	25		20	

Workings:

Creation of demand curve based on marginal utility theory

What is meant by indifference curve analysis/ordinal theory of utility?

This analysis is a superior to the utility theory which says it is impossible to measure utility quantitatively and also it mentions it is possible to place the consumer preference in the order of importance.

What is marginal rate of substitution?

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Illustration:

Calculations:

This consumer for an example buys 2 products namely X and Y. This consumer has only disposable income Rs.200 according to the above diagram. There are 3 indifference curves.

1. IC1 –Highest level of satisfaction
2. IC2 –Second level of satisfaction
3. IC3 –Third level of satisfaction

Along the each indifference curve this satisfaction obtaining from consuming different combination of X and Y products is same ,but in order to identify the point where the consumer satisfaction is maximized we need to draw budget line shown above, therefore this consumer is maximized where this budget line intersects the indifference curve.

<u>Effect of a rise in income (income effect)</u>

An increase in income enables the consumer to buy more of both goods as a result, the budget line shifts to the right, therefore will move to a higher level of satisfaction on a higher indifference curve.

<u>Effect of a fall in the Price of one good (for an example A price)</u>

As the price of X falls the consumer will be able to buy more of X therefore the budget line shifts to the right from the X axis, because of this the consumer moves to a higher equilibrium point on a higher indifference curve.

DEMAND

The factors creating demand?

1. Purchasing power
2. Willingness to buy
3. Purchasing plan

NOTE:

If it is to be an effective demand there should be the purchasing power of the customer and appropriate purchasing plan in addition to willingness to buy one particular good.

The definition of Demand

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The theory of demand/ Law of demand / Demand concept

During the period of time while all other factors affecting the demand, remain constant,

1. If price of particular product increases quantity demand will be decreased
2. If price of particular product decreases quantity demand will be increased

Therefore there is an inverse (negative) relationship in between of the price of the particular product and the quantity demanded.

Factors affecting the demand

1. Price of the particular product
2. Other factors
   a. Price of the other related goods
      i. Price of the substitute goods
      ii. Price of the complementary
   b. Consumer income
   c. Government tax
   d. Climate factors
   e. Consumer taste
   f. Cultural factors
   g. Advertisement

Note:

- Individual demand means one consumer demand in the market.
- Market demand means total collection of individual demand in the market.

What are the reasons for the demand concept (inverse relationship in between of price and the quantity demand?)

Income effect

- When the price of the particular product changes the real income (purchasing power) of the consumer is changed that means when the product price falls the purchasing power of the consumer increases therefore ,the quantity demanded also increases, while all other factors affecting, the demand remain constant and vice versa.

Substitution effect

- When a product price falls it will be cheaper than its substitute goods in the markets therefore, the product quantity demanded will be increased and vice versa.

Price change	Substitution effect	Income effect	Price effect

The different ways to explain the law of demand

1. By wordings(by statement)
2. Tabular presentation

Ex: -

P	Qd
10	300
20	200
30	100

3. By graphical presentation

4. Mathematical/numerical presentation

$$Qd=a-bp$$

Qd ⇒ quantity demanded

a ⇒ Qd at price 0 (intercept)

b ⇒ slope/ $\frac{\Delta Qd}{\Delta p}$

p ⇒ price of the particular product

Differentiate change in quantity demanded and change in demand

Change in quantity demanded

- If price of the particular product falls quantity demanded will be increased, it is known as Extension of demand.
- In other hand if price increases quantity demanded will be decreased.it is known as Contraction of demand.
- These are the two categories of change in quantity demanded.
- During this time the change is occurred along the curve.
- It never shifts rightward or leftward.

Change in demand

- If one of the other factors is changing in favorable manner demand will be increased. This is known as Increase in demand.
- If one of the other factors is changing in an unfavorable manner demand will be decreased. This is known as Decrease in demand.
- These two categories are known as Change in demand.
- During this time the demand curve shifts parallel to rightward or leftward but never shifts along the curve.

Factors that shift the demand curve to the right

1. Increase in the price of substitution effect
2. decrease in the price of the complementary goods
3. Increase in the consumer income
4. Increase the consumer taste
5. Expectation that the price of the good increased in the future
6. Increase in the number of consumers

Factors that shift the demand curve to the left

1. Decrease in the price of substitution effect
2. Increase in the price of the complementary goods
3. Decrease in the consumer income
4. Decrease the consumer taste
5. Expectation that the price of the good decreased in the future
6. Decrease in the number of consumers

SUPPLY

To explain the supply the following matters should be considered,

1. The entity has necessary resources and technology
2. Able to make profit
3. Production plan and marketing strategies

The definition of Supply

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NOTE:

- Individual supply – one individual supplier or one firm in the market.
- Market supply – collection of suppliers or group of similar firms.

The law of supply

During the given period of time while all other factors affecting the supply remain constant,

- If price of the particular good increases the quantity supplied also will be increased
- If price of the particular good decreases the quantity supplied also will be decreased

Therefore there is a positive relationship in between of the price of the particular product and the quantity supplied.

The factors affecting the supply

1. Price of particular good
2. Other factors
    a. Price of the other related goods
    b. Cost of the production
    c. Government policies
    d. Government taxes and subsidies
    e. Climate factors

The different ways to explain the law of supply

1. By word (by statement)
2. Tabular presentation

Ex: -

P	Qs
10	100
20	200
30	300

3. By graphical presentation

4. Mathematical /numerical presentation

$$Qs = a+bp$$

Qs - Quantity supplied

a - Qs at the price 0 (intercept)

b - Slope / $\frac{\Delta Qs}{\Delta P}$

p - Price of the particular product

Differentiate change in Quantity supplied and change in supply

<u>Change in Quantity supplied</u>

- If price of the particular product falls quantity supplied will be decreased. It is known as Contraction of supply.
- If price of the particular product increases quantity supplied also will be increased. This is known as Extension of supply.
- During this change it never shifts to rightward or left ward but the change is occurred along the curve while all other factors remain constant.

Change in supply

- If one of the other factors is changing in favorable manner supply will be increased. It is known as Increase in supply.
- If one of the other factors is changing in an unfavorable manner supply will be decreased. It is known as Decrease in supply.
- During this time this supply curve shifts parallel to rightward or leftward but never change along the curve.

Factors that shift supply curve to the right

1. Decline in the price of the related goods
2. Decline in the price of the factor inputs used in the productions
3. Advancement in technology

4. Increases in the number of suppliers
5. Reduction or removal of tax imposed on the producers
6. Provision of subsidies to the producers by the government
7. Expectation of producers that the price will decline in the future

<u>Factors that shift supply curve to the left</u>

1. Increase in the price of the related goods
2. Increase in the price of the factor inputs used in the productions
3. Technology obsoletes
4. Decreases in the number of suppliers
5. Increasing or imposition of tax imposed on the producers
6. Removal of subsidies to the producers by the government
7. Expectation of producers that the price will increase in the future

Market equilibrium

It is meant by the market condition where the quantity of the particular commodity that consumers are willing to purchase exactly equals to the quantity that producers are willing to supply during the given period of time.

<u>Change in the market equilibrium</u>

1. Change in the demand while supply remains the same

    - ✓ Increase in demand while supply remains same
    - ✓ Decrease in demand while supply remains same

2. Change in the supply while demand remains the same

- ✓ Increase in supply while demand remains same
- ✓ Decrease in supply while demand remains same

3. Change in both supply and demand

- ✓ Increase in both demand and supply
- ✓ Decrease in both demand and supply
- ✓ Increase in demand and decrease in supply
- ✓ Decrease in demand and increase in supply

Price elasticity

It is basically the responsiveness of one variable to the change of other variable.it has 4 categories.

1. Price elasticity of demand (PED)
2. Income (yield) elasticity of demand (YED)
3. Cross elasticity of demand (XED/CED)
4. Price elasticity of supply (PES)

1. Price elasticity of demand (PED)

The degree of which quantity demanded responds to the changes of price of the particular product while other factors remain constant during the given period of time. It can be calculated as follows.

1. <u>Percentage elasticity</u>

$$\mathrm{PED} = \frac{\Delta \mathrm{Qd}\%}{\Delta \mathrm{P}\%}$$

2. <u>Point elasticity</u>

$$\mathrm{PED} = \frac{\Delta \mathrm{Qd}}{\Delta \mathrm{P}} \times \frac{\mathrm{P}}{\mathrm{Qd}}$$

3. <u>Arc elasticity</u>

$$\mathrm{PED} = \frac{\Delta \mathrm{Qd}}{\Delta \mathrm{P}} \times \frac{\mathrm{P1} + \mathrm{P2}}{\mathrm{Qd1} + \mathrm{Qd2}}$$

Types of PED

The determinants of price elasticity of demand

- Whether the good is necessary or luxury
- The number of substitutes available their closeness to the given item
- The percentage of income spent on the good
- The number of alternatives usage of the given good

The importance of price elasticity of demand

- Ability to determine the output level to maximize the revenue
- Ability to determine the monopolistic power of the firm
- Importance d taking decision by economic agents.
- Helps in formulating policies

2. Income elasticity of demand (YED)

It measures the relationship in between of change in demand and change in consumer income level while all other factors including the price of a product remain constant, during the given period of time.it can be calculated as follows.

1. percentage elasticity

$$YED = \frac{\Delta Qd\%}{\Delta Y\%}$$

2. point elastcity

$$YED = \frac{\Delta Qd}{\Delta Y} \times \frac{Y}{Qd}$$

Types of YED

3. Cross elasticity of demand (CED/XED)

It measures change in demand of the particular good and a change in price of another good while all the factors including the price of the particular good remain constant during the given period of time. It can be calculate as follows,

$$1.\ \text{CED} = \frac{\Delta \text{QdB}\%}{\Delta \text{PA}\%}$$

$$2.\ \text{CED} = \frac{\Delta \text{QdB}}{\Delta \text{PA}} \times \frac{\text{PA}}{\text{QdB}}$$

<u>Types of CED</u>

Note:

- The relationship in between of price and consumer expenditure or supplier in under the theory of PED.

4. **Price elasticity of supply (PES)**

It is the measure of the responsiveness of the quantity supplied to the change in the market price of the particular while all other factors affecting this supply remain constant during the given period of time.

1. <u>Percentage elasticity</u>

$$PES = \frac{\Delta Qs\%}{\Delta P\%}$$

2. <u>Point elasticity</u>

$$PES = \frac{\Delta Qs}{\Delta P} \times \frac{P}{Qs}$$

3. <u>Arc elasticity</u>

$$PES = \frac{\Delta Qs}{\Delta P} \times \frac{P1 + p2}{Qs1 + Qs2}$$

<u>What are the determinants of price elasticity supply of the product?</u>

- The level of mobility of factors of production
- Nature of goods
- Ability to maintain stocks and shares
- The time required to change supply
- Cost of production

<u>Importance of price elasticity of supply</u>

- Determining monopolistic power of the firm
- Identifying substitutes and complementary goods
- Forecast impact of change in price on consumer expenditure
- Identifying mobility of factors of production

- Determining an appropriate price for the goods to maximize the revenue

<u>Types of PES</u>

Importance of demand and supply analysis in business decision making

- Preparation of sales estimates
- Policy to determine the price of the good
- Non price policies
- Diversification
- Income elasticity and business cycle

Differentiate Consumer surplus and Producer surplus

Consumer surplus

The difference in between of the total amount that the consumers are willing and able to pay for the good and the total amount they actually paid for it.

Producer surplus

The difference in between of the total amount that the producers are willing and able to sell the good and the total amount they actually sold.

Government intervention in market

What are the reasons for the government intervention?

1. To correct market failures
2. Maximizing equal distribution of income & wealth among this society
3. To discourage harmful good production
4. To protect environment from getting pollution
5. Control the monopoly power and unfair competition
6. Achieve economic growth and sustainable development
7. To ensure laws & legislation to control externalities

How the government intervenes in the market system

1. Imposing price controls
    - Imposing maximum price (price ceiling)
    - Imposing minimum price (price floor)
2. Imposing tax
3. Providing subsidies
4. Stabilization of price

1. Imposing price controls

Imposing maximum price

The maximum price is imposed by the government in order to protect the consumers from the market price which will be unfair & unaffordable to the consumers to buy such types of goods

Ex:-milk powder, gas and other necessity goods.

The impacts of maximum price control

1. The quantity demanded will be increased
2. The quantity supplied will be decreased
3. The excess demand will be risen
4. There will be a black market activities where the price will changed more than the market price
5. There will be the introduction of low quality substitute goods
6. There will be the long queue to buy the limited available stocks
7. The buyers are unable to buy the required necessity goods

Strategies to maintain maximum price control

1.

2.

3.

Imposing minimum price

The minimum price is imposed by the government in order to protect the producers from the market price which will be unfair & cheaper to sell types of goods.

Ex:-minimum wage protection, agricultural crops

The impacts of minimum price control

1.

2.

3.

4.

5.

6.

Strategies to maintain maximum price control

1.

2.

3.

2. <u>Imposing tax</u>

An indirect tax is imposed on producers by the government. Followings are some of the reasons to impose indirect tax by the government.

1. Generate tax revenue for the government
2. Discourage consumption of harmful goods
3. Encourage consumption of good products

<u>The methods of imposing tax on good & services</u>

1. The imposition of unit tax
2. The imposition of ad-valorem tax

3. Providing subsidies