**2021 Notes – Theory of Demand and Supply**

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**Part 1: Theory of Demand and Supply**

**Main Definitions and Concepts**

* 1. Demand
* Demand refers to the consumer’s desire and willingness to purchase based on consumer satisfaction and the ability of the consumers' purchasing power to purchase goods and/or services at a particular period of time and the maximum level of price.

1.1.1 Assumptions (Rational consumer behaviour – maximization of their satisfaction)

* Consumers spend all income on goods and services/ maximisation of consumer welfare
* Consumers always prefer more of a normal good as compared to less.
* Producers always aim to maximise profits by supplying more of a good at a given price level.
	1. Demand Curve
* The demand curve shows the inverse relationship between the price of good and the quantity demanded of the good, ceteris paribus.
* It represents the **maximum** price that consumers are willing and able to pay for 1 unit of the good
	1. Change in Quantity Demanded

A change in quantity demanded is the change in consumption of the goods due to a change in the price of the good concerned. This is represented by a movement **along** the demand curve.

* 1. Change in Demand

A change in demand is a change in the consumption of the goods due to factors other than the change in price of the good concerned. This represented by the **shift** of the demand curve.

## 1.6 Determinants of Demand

* + - Determinants of Demand can be classified as price and non-price determinant. Price determinant will cause a change in quantity demanded while the non-price determinants will cause a change in demand.
		- **Price of the good concerned**

An increase in the supply of the good concerned will lead to a fall in the price of the good concerned and thus, contributes to an increase in quantity demanded and vice-versa.

* + - Demand may shift when there is a change in the **price of related goods**
* Substitute is a commodity that can be used in the place of another. The decrease in price of the substituting good leads to a decrease in demand of good concerned. (nature of usage)
* Complement
* it is a good that can be used in conjunction with another. An increase in price of a complementary good results in a decrease in quantity of the good concerned. (nature of usage)
* **Change in the consumer’s real disposable income**
* Increase in income will increase the demand of a **normal** good (large proportion of income spent on it
* Increase in income will decrease the demand of an **inferior** good (small proportion income of spent on the good)
* **-depends on the income of the average earners**
	+ - **Change in tastes and preferences**
* A change in tastes and preferences changes the consumers’ desired demand of the good.
* Changes in preference can be brought about by advertisements, promotions, education, culture, etc.
	+ - **Population and demographics**
* Change in demographics of the population affects the potential consumers and market size of the good concerned.
* For example, an ageing population increases the demand of elderly healthcare services.
	+ - **Government policies**
* Implementation of government policies and law can compel consumers to demand more for certain goods.
* For example, implementation of ERP leads to an increase in demand for cash cards and in-car payments units.
	+ - **Expectation of future prices**
* An expected decrease in future prices would decrease current demand for good concerned as consumers would postpone consumption now and increase demand in future

🞹The demand curve is downward-sloping (inverse r/s between P & qtydd) because of the **income effect** and the **substitution effect** that is reflected when the price of good changes.

* Income effect reflects a change in **real** income when there is a change in the price of good, ceteris paribus. For example, when the price of good increases, the consumer can buy more units of the good with the same amount of money. (increase purchasing power)
* Substitution effect reflects the consumers’ switching to, or from, alternative good due to a change in price of one good. For example, a rise in price of good A cause a fall in quantity demanded of good A because consumers switch to a cheaper alternative.

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Decrease P,↑relative Y

🡪Normal good🡪↑Qty dd

🡪Inferior good 🡪 ↓Qty dd

Substitution effect🡪↓Px🡪↑Qty dd­x

$∵$↓dd for Y

i) Normal good 🡪↓Px🡪Y effect (↑Qty dd) + Sub effect (↑Qty dd)

⇨ Y effect + Sub effect 🡪 more than proportional ↑ Qty dd – Price-elastic dd (E.g. Students to KFC)

ii) Inferior good 🡪↓Px🡪Y effect (↓Qty dd) + Sub effect (↑Qty dd)

⇨Sub effect > Y effect 🡪 less than proportional ↑ Qty dd – Price-inelastic dd

(E.g. Adults to KFC)

1.7 Types of demand

* **Joint demand**: The relationship of the two goods is complementary in nature, implying that the increase in quantity demanded for good A will lead to the increase in demand for good B. (demand for bread – demand for butter)
* **Competitive demand** (substitutes in nature): The two goods are substitutes for each other, implying that the increase in quantity demanded for good A will lead to the reduction in demand for good B. For example, specially-brewed coffee and soft drinks. – serving the same need as beverages
* **Derived demand** (dependency in nature): The relationship of the two goods is linked in such a way that the demand for good A is dependent on the quantity demand of good B. For example, brick and houses. – petrol and cars
* **Increase in demand for cars will lead to increase in demand for goods which are derived demand like petrol.**
* **Composite demand**: The demand for the goods comes from many sources. (It can be used in many ways by different types of consumers.) For example, steel – can be used for ship building, cars, TV.

### 2.1 Supply

* + - Supply refers to the amount of goods and service producers are willing to produce based on profit motives and ability to produce based on production capacity to offer up for sales at particular price over a certain period of time.

### 2.2 Supply Curve

* + - The supply curve shows the positive relationship between the price of good and the quantity of goods supplied by all the producers in the industry.
		- It represents **minimum** price that all producers are willing to accept and able to produce.

🞹Supply curve is upward sloping because producers always aim to maximise profits by selling more at a higher price.

### 2.3 Change in Quantity Supplied

A change in quantity supply means that the change in production capacity is due to the change in the price of the good concerned. This is represented by a movement **along** the supply curve

2.4 Change in Supply

* + - A change in supply means that the change in production capacity is due to some other factors beside the price of the goods concerned. It is represented by the **shift** of the supply curve (See 3).

## 2.5 Determinants of Supply

* + - Determinants of supply can be classified as the price determinant (factor - △ in COP) and non-price determinants. For price determinant, it will contribute to an increase in quantity supplied (△ in SS) while for non-price determinants they will contribute to a change in supply.
		- **Price of the good concerned**

An increase in demand for the good concerned will contribute to an increase in price of the good concerned and thus, it will lead to an increase in quantity supplied.

* + - **Prices of inputs /cost of production**
* A rise in the price of the resources such as wages or price of raw materials will increase the cost of production, leading to a decrease in supply of the goods.

**Availability of resources**

* If the availability of resources is limited, the production capacity will be lesser, thus making it difficult for the industries to increase production. It is likely the cost of production will increase and thus, the supply of goods will reduce.
	+ - **Prices of related goods**
* Change price of related goods can affect the supply of goods concerned.
* For example, whale meat and whale blubber are of joint supply. Hence the increase in supply of one good results in the increase of supply of another.(by-products from production can increase the SS of the other good) (beef and leather)
* Beef and milk are of competitive supply. The more cows are slaughtered for beef the less there is to produce milk.(need for similar resource) corn and rice – demand for land
	+ - **Technology**
* An improvement in technology will raise productivity of the industries and help to lower cost of production and this enables the industry to increase the supply of the good.
	+ - **Taxation and subsidies**
* Increase in taxation will lead to an increase in cost of production which will lead to a decrease in supply of the good.
* Increase in subsidies will lead to a reduction in cost of production which will lead to an increase in the supply of the good.
	+ - **Numbers of firms**
* An increase in the number of firms in the industry will lead to an increase in the supply of the goods.
	+ - **Goals of the firm**
* If the aim of the firm is to increase the production level so as to reap benefits of large scale production (reap EOS), the supply of the good will increase.
	+ - **Weather and endowment of resources**
* Certain products’ production capacity is constrained by the weather condition distribution of the endowment of the natural resources and hence the supply of the good may increase or decrease.

**Qn for Discussion**

**1. Explain how price of property rises despite an increase in the supply of property. (6)**

2.6 Types of supply

* **Fixed supply curve**: The supply of the production is restricted and fixed and it will not change in accordance to the change in the price level. For example, the fishery industry has its production capacity fixed by natural environment factor.

Fixed Supply Curve

i. Stadium capacity

ii. COE 🡪 new cars

Qty

* **Joint supply**: The increase in quantity supplied of a good will lead to the increase in the supply of another good as the production of one good will create the by-products which can be used for the production of another good. The increase in the supply of these resources will lower down the cost of production for latter, thus leading to an increase in the supply of the good.
* **Competitive supply**: The increase in supply of one good will lead to the reduction of another good as the production of one good (competing for same resources) requires resources for production which is also used for the production of the good. Due to the condition of limited resources, the cost of these resources will increase which will raise the cost of production and thus, contributing to the fall in supply of the good concerned.

### 3.1 Market Equilibrium

* + - This condition of market equilibrium is attained when the market demand is equal to market supply. At equilibrium, the **market clearing price** and quantity is determined.
		- In this situation, buyers and sellers have no incentive to deviate from their current economic actions
		- Any change in demand and supply condition will lead to a change in market equilibrium that will depict the impact of the change in demand and supply on the market which will depict the new equilibrium price and output level
		- Impact on market for air travel due to rise in oil price and global recession
* price and o/p
* consumer and producer surplus

### 3.2 Consumer and Producer Surplus

* + - Consumer surplus is the difference between the maximum amount that consumers are willing to pay for a given quantity of good and what they actually pay (equilibrium price).
		- Producer surplus is the difference between the amount received by producers and the minimum amount that they are willing and able to accept for supplying the good

For illustration

Competitive supply 🡪 increase in qty supply of one good will lead to reduction in the supply of another

🡪Competing for same resources

**Explain how the increase in demand for cornaffects the market for rice.**

e.g. Increase in DD for corn 🡪 Increase P of corn 🡪 ↑ Qty ss of corn🡪 decrease ss of rice – competing for one of land



Increase DD for corn🡪 Increase P of corn

🡪Increase Qty SS of corn

🡪Increase DD for land to produce corn

Increase COP of Rice (Shortage of land)

🡪Decrease SS of rice 🡪 Increase P of rice

🡪Decrease Qty dd for rice

Description of the graph:

**Question for discussion**

Why increase in price of oil will lead to increase in price of rice?

Direct Answer: (2 marks)

increase in price of oil – increase in cost of transport – increase in cost of production for rice – decrease in supply of rice – increase in price of rice (1-2)

* Increase in price of oil🡪decrease qty dd of oil🡪 increase dd for bio fuel🡪 increase dd for corn (competitive dd (oil/bio-fuel) (competitive ss) (corn/rice)

🞹**Qn: Why↑ P of oil will lead to ↑ P of rice? (types of demand and supply)**

Step 1 - ↑P of oil 🡪↓Qty dd for oil🡪↑dd for biofuel (Competitive demand)

Step 2 🡪increase in biofuel leads to increase in dd for corn🡪 (Derived demand)

Step 3↑ price of corn🡪↑ qty ss of corn 🡪 ↑dd for land 🡪↑ COP for rice 🡪↓ ss of rice 🡪 ↑P of rice (competitive suuply)

Oil and biofuel –

Corn and biofuel –

Corn and rice -

No of diagrams to be drawn

1. oil market
2. biofuel market
3. corn and rice market

### PES for cash crop – price inelastic – long gestation for production

### PED for cash crop – price inelastic – high degree of necessity of demand – staple food