CONTENT

SI.No.	Торіс	Page No.
1.	Introduction to Economics	1-7
2.	Basic Concepts of Microeconomics	8 - 18
3.	National Income Accounting	19 – 32
4.	Poverty and Unemployment	33 – 48
5.	Fiscal Policy	49 – 68
6.	Taxation	69 – 82
7.	Monetary Policy	83 – 96
8.	Banking In India	97 – 119
9.	Inflation and Business Cycle	120 – 134
10.	Balance of Payment	135 – 144
11.	Foreign Trade	145 – 151
12.	Money Market	152 – 156
13.	Capital Market	157 – 165
14.	Economic Reforms	166 – 175
15.	Bretton Woods Institutions and Others	176 – 187
16.	World Trade Organisation	188 – 201

TOPIC 1

INTRODUCTION TO ECONOMICS

BASICS OF ECONOMICS

Economics is the science of analyzing the production, distribution and consumption of goods and services. In other words, what choices people make; how and why they make them when making purchases.

Scarcity is the basic economic problem that exists because we as humans have unlimited wants that cannot be met by the limited amount of resources our world has. **Any good or service that has a non-zero price is considered scarce.** It will cost you something to consume that good or service. **Without scarcity, there would be no reason to study economics.** People would consume everything they could possibly consume and not have to make choices or trade-offs between goods and services.

The study of economics can be subcategorized into micro-economics and macro-economics.

- **Microeconomics** is the study of economics at the individual or business level; how individual people or businesses behave given scarcity and government intervention. Microeconomics includes concepts such as supply and demand, price elasticity, quantity demanded and quantity supplied.
- **Macroeconomics** is the study of the performance and structure of the whole economy rather than individual markets. Macroeconomics includes concepts such as inflation, international trade, unemployment, and national consumption and production.

There are also schools of economic thought. Two of the most common are Classical and Keynesian.

- The Classical view believes that free markets are the best way to allocate resources and the government's role should be limited to that of a fair and strict referee.
- In contrast, the Keynesian approach believes that markets don't work well at allocating resources on their own and that governments must step in from time to time and actively reallocates resources efficiently.



IN TERMS OF THE ROLE OF STATE

The most contentious issue that has affected civilized history of mankind is as to how the production process in an economy should be organized. Whether the production should be the sole responsibility of State/Government or should it be left altogether to the private sector?

Every society has to answer three questions which determine the type of economic system:

• What goods and services should be produced in the country?

- How should the goods and services be produced? Should producers use more human labour or more capital (machines) for producing things?
- How should the goods and services be distributed among people?

Based on the answer of these three questions, the economic systems are classified into 3 categories:

1. Capitalistic Economy

The capitalistic form of economy has its origin in the famous work of **Adam Smith - Wealth of Nations (1776).** He stressed on 'laissez faire' state i.e. non-interference by the government.

The decisions of what to produce, how much to produce and at what price to sell are taken by the market, by the private enterprises in this system with the state having no economic role.

- In a capitalist economy, the market determines prices through the laws of supply and demand.
 For example, when demand for coffee increases, a profit-seeking business will boost prices in order to increase its profit. If, at the same time, society's appetite for tea diminishes, growers will face lower prices and aggregate production will decline. In the long run, some suppliers may even exit the business.
- If labour is cheaper than capital, more labour-intensive methods of production will be used and vice-versa.
- In a capitalist society the goods produced are distributed among people not on the basis of what people need but on the basis of what people can afford and are willing to purchase. This means that a sick person will be able to use the required medicine only if he/she can afford to buy it; if they cannot afford the medicine they will not be able to use it even if they need it urgently.

2. Socialistic Economy or State Economy

The socialistic form of economy was rooted in the ideas of historical change proposed by the German philosopher Karl Marx (1818–1883). More specifically, this kind of economic system first came up in the erstwhile USSR after the Bolshevik Revolution (1917) and got its ideal shape in the People's Republic of China (1949).

Under a true socialist system, it's the government's role to determine output and pricing levels. The challenge is synchronizing these decisions with the needs of consumers. A socialist society answers the three questions in a totally different manner:

- In a socialist society the government decides what goods are to be produced in accordance with the needs of society. It is assumed that the government knows what is good for the people of the country and so the desires of individual consumers are not given much importance.
- The government decides how goods are to be produced and how they should be distributed.
- In principle, distribution under socialism is supposed to be based on what people need and not on what they can afford to purchase. Unlike under capitalism, for example, a socialist nation provides free health care to the citizens who need it. Strictly, a socialist society has no private property since everything is owned by the state.

There **are two versions of the state economy** - in erstwhile USSR known as the socialist economy and in pre-1985 China as the communist economy.

- Socialistic economy emphasized the collective ownership of the means of production (property and assets) and it also ascribed a large role to the state in running the economy,
- Communist economy advocated state ownership of all properties including even labor and absolute power to state in running the economy.

3. Mixed Economy

It is an economic system that features characteristics of both capitalism and socialism. A mixed economic system allows a level of private economic freedom in the use of capital, but also allows for governments to interfere in economic activities in order to achieve social aims. This type of economic system is less efficient than capitalism, but more efficient than socialism.

Mixed economic systems are not laissez-faire systems: the government is involved in planning the use of resources and can exert control over businesses in the private sector. Governments may seek to redistribute wealth by taxing the private sector, and using funds from taxes to promote social objectives.

Which model was adopted by the Indian Economy?

The leaders of Independent India had to decide the type of economic system most suitable for our nation which would promote the welfare of all rather than a few.

Among the different types of economic systems, socialism appealed to Jawaharlal Nehru the most. However, he was not in favour of the kind of socialism established in the former Soviet Union where all the means of production, i.e. all the factories and farms in the country, were owned by the government. There was no private property. It was not possible in a democracy like India for the government to change the ownership pattern of land and other properties of its citizens in the way that it was done in the former Soviet Union.

The leaders found the answer in an economic system which, in their view, combined the best features of socialism without its drawbacks. In this view, India would be a socialist society with a strong public sector but also with private property and democracy; the government would plan economy with the private sector being encouraged to be part of the plan effort.

So, after Independence, India opted for the Mixed Economy. In the process of organising the economy, some basic and important infrastructural economic responsibilities were taken up by the State/Governments (centre and state) and rest of the economic activities was left to private enterprise i.e. the market.

But once the country started the process of economic reforms in early 1990s, the prevailing state-market mix was redefined and a new form of mixed economy began to be practised.

- The redefined mixed economy for India had a declared favour for the market economy.
- Many economic roles which were under complete government monopolies were now opened for participation by the private sector. Examples are many telecommunication, power, roads, oil and natural gas, etc.
- At the same time, social sector such as education, health care, drinking water, etc were given extra emphasis by the state.

The economic system of India was a mixed economy in pre-1991 years as it is in post-1991 years but the composition of state-market mix has gone for a change.

IN TERMS OF PER CAPITA INCOME

The World Bank classifies economies based on their GNI per capita. The categories are given below:

Categorisation	Per Capita GNI (2016)
Low-Income Economy	\$1,005 or less
Lower Middle-Income Economy	Between \$1,006 and \$3,955
Upper Middle-Income Economy	Between \$3,956 and \$12,235
High-Income Economy	\$12,236 or more

Low- and middle-income economies are usually referred to as developing economies, and the Upper Middle Income and the High Income are referred to as Developed Countries.

India is categorized in the Lower Middle Income Category with per capita GNI of 1680 as per World Bank. IN TERMS OF THE NATURE OF ECONOMY

Depending upon the shares of the particular sectors in the total production of an economy and the ratio of the dependent population on them for their livelihood, economies are given different names, such as:

Agrarian Economy

An economy is called agrarian if the share of its primary sector is 50 per cent or more in the total output (the GDP) of the economy. At the time of independence, India was such an economy. But now it shows the typical symptom

of a service economy with primary sector's contribution falling to almost 18 per cent of its total produce while almost 60 per cent of its population depends on the primary sector for its livelihood. Thus, in monetary terms India is no more an agrarian economy.

Industrial Economy

If the secondary sector contributes 50 per cent or more to the total produce value of an economy, it is an industrial economy. Higher the contribution, higher is the level of industrialisation. Most of the developed economies have crossed this phase once the process of industrialisation saturated.

Service Economy

The economy whose 50 per cent or more produce value comes from the tertiary sector is known as the service economy.

STRUCTURAL COMPOSITION OF ECONOMY

The contribution made by the different sectors of the economy, namely the agricultural sector, the industrial sector and the service sector in the GDP of the country makes up the structural composition of the economy. In some countries, growth in agriculture contributes more to the GDP growth, while in some countries the growth in the service sector contributes more to GDP growth.

Primary Sector

The primary sector involves the extraction of raw materials from the earth. Therefore, this is sometimes known as the Extraction Sector. This extraction results in raw materials and basic foods, such as coal, wood, iron and corn.

Secondary Sector

The secondary sector involves the transformation of raw materials into finished or manufactured goods. This sector is rightly called the manufacturing sector. Since the manufacturing is done by the industries this sector is also called the industrial sector - bread and biscuits, cakes, automobiles, textiles, etc.

Tertiary Sector

The service sector is concerned with the intangible aspect of offering services to consumers and business. It involves retail of the manufactured goods. It also provides services, such as insurance and banking.

Quaternary Sector

The quaternary sector is said to be the intellectual aspect of the economy. It includes education, training, the development of technology and research and development. It is the process which enables entrepreneurs to innovate better manufacturing processes and improve the quality of services offered in the economy. Without this growth of technology and information, economic development would be slow or non-existent.

Structural Transformation of an Indian Economy

Structural transformation in an economy is usually associated with the changes in sectoral composition of output, employment and changes in the rural - urban composition of output and employment.

As a country develops, it undergoes 'structural change'. Usually, with development, the share of agriculture declines and the share of industry become dominant. At higher levels of development, the service sector contributes more to the GDP than the other two sectors. So, in general it follows the below trend as experienced by many developed countries such as US, UK etc. or by developing countries like China etc.

Agriculture> Industry> Services(Primary Sector)(Secondary Sector)(Tertiary Sector)

But in the case of India, the structural change is peculiar.

- The share of agriculture in Indian GDP fell from > 40% in the early 1960s to around 17% by the end of the 2000s.
- It is to be noted that the rate of decline in the agricultural share accelerated as the rate of economic growth increased.

- The share of industry as a whole rose from about 20% in 1960 to around 28% in 2009, whereas the share of manufacturing alone disappointingly stayed at around 15% during the entire period, again a sign of sluggish structural transformation.
- By 1990 the share of the service sector was 40.59 per cent, more than that of agriculture or industry, like what we find in developed nations. This phenomenon of growing share of the service sector was accelerated in the post 1991 period.
- Presently, service sector has emerged as the largest and fastest growing sector of the economy with around more than fifty percent contribution to the GDP (at current prices) in 2015 as per Economic Survey 2015-16.
- The distinctive feature of India's growth has been the increasing contribution of service sector to GDP growth. (Also referred as Growing Tertiarization of Indian Economy)

The Income Components of GVA and Income and Employment Shares							
Sector	CE to	OS & MI	CFC to	GVA share	Employment		
	GVA	to GVA	GVA	of the	share		
				sector			
		Average 2011-13					
Agriculture & Allied	15.3	81.6	6.6	18.1	48.9		
Industry	35.7	49.1	14.6	31.9	24.3		
Mining & Quarrying	23.9	62.5	12.8	3.0	0.5		
Manufacturing	23.6	58.4	17.0	17.8	12.6		
Electricity, gas & water supply	31.7	36.5	34.1	2.3	0.5		
Construction	65.2	29.1	5.1	8.8	10.6		
Service sector	38.9	50.0	10.4	50.0	26.9		
Trade, hotels & restaurants	23.5	69.9	5.2	11.4	11.0		
Transport, storage & communication	37.9	49.8	15.0	6.6	4.8		
Financial, real estate & business services	26.1	61.4	10.8	19.4	2.3		
Community, social & personal services	72.7	14.9	12.3	12.7	8.7		
Total	33.6	55.5	11.1	100.0	100		

Economic Survey 2015-16

FACTORS OF PRODUCTION

It is an economic term to describe the inputs that are used in the production of goods or services in the attempt to make an economic profit. The factors of production include **land**, **labor**, **capital and entrepreneurship**.

Land

- Land is the economic resource encompassing natural resources found within a nation's economy.
- This resource includes timber, land, fisheries, farms and other similar natural resources.
- Land is usually a limited resource for many economies. Example: India has 15% of the global population but only 2.4% of the global land.

Labour

- Labor represents the human capital available to transform raw or national resources into consumer goods.
- Human capital includes all able-bodied individuals capable of working in the nation's economy and providing various services to other individuals or businesses.

- This factor of production is a flexible resource as workers can be allocated to different areas of the economy for producing consumer goods or services.
- Human capital can also be improved through training or educating workers

Capital

- Capital has two economic definitions as a factor of production.
- Capital can represent the monetary resources companies use to purchase natural resources, land and other capital goods.
- Capital also represents the major physical assets individuals and companies use when producing goods or services. These assets include buildings, production facilities, equipment, vehicles and other similar items.

Entrepreneurship

- Entrepreneurship is considered a factor of production because economic resources can exist in an economy and not be transformed into consumer goods.
- Entrepreneurs usually have an idea for creating a valuable good or service and assume the risk involved with transforming economic resources into consumer products.

TYPES OF GOODS

Final Goods

Any good or service purchased by the consumer (Individual or Enterprise) can be for final use or for use in further production. An item that is meant for final use and will not pass through any more stages of production or transformations is called a final good.

Why do we call this a final good?

- Once it has been sold, it passes out of the active economic flow.
- It will not undergo any further transformation at the hands of any producer.
- It may, however, undergo transformation by the action of the ultimate purchaser. In fact, many such final goods are transformed during their consumption.

Example: The tea leaves purchased by the consumer are not consumed in that form – they are used to make drinkable tea which is consumed. Similarly, most of the items that enter our kitchen are transformed through the process of cooking. But **cooking at home is not an economic activity** even though the product involved undergoes transformation. Home cooked food is not sold to the market. However if the same cooking or tea brewing was done in a restaurant where the cooked product would be sold to the customers, then the same items such as tea leaves would cease to be final goods and would be counted as inputs to which economic addition takes place. **Thus, it is not in the nature of the good but in the economic nature of its use that a good becomes a final good. Final Goods can be distinguished between Consumption Goods and Capital Goods.**



Consumer Goods			Capital Goods			
•	These goods are consumed to satisfy current wants of consumers directly.	•	There are the goods that are of durable character which are used in the production process.			
•	For example, food, shirt, shoes, cigarettes, pen, TV set, and radio, etc. are all consumer goods.	•	While they make production of other commodities feasible, they themselves don't get			
•	Similarly, services rendered to consumers by		transformed in the production process.			
	hotels, retailers, barbers, etc. are consumer services.	•	These goods form a part of capital, one of the crucial factors of production in which a productive			
•	Consumption goods sustain the basic objective of		enterprise has invested.			
	an economy, i.e., to sustain the consumption of	•	They gradually undergo wear and tear, and thus			
	entire population of the economy.		are repaired or gradually replaced over time.			
•	Consumer goods are further classified into durable and non-durable goods.					
•	Durable goods are those which can be used in					
	consumption again and again over a considerable					
	period of time, e.g., chair, car, fridge, shoes, TV set.					
•	Non-durable goods are like single use goods which					
	are used up by consumers in a single act of consumption,					
	e.g., milk, fruits, matches, cigarettes, coal, etc.					

Intermediate Goods

Of the total production taking place in the economy a large number of products don't end up in final consumption and are not capital goods either. Such goods may be used by other producers as material inputs. **Examples are steel sheets used for making automobiles and copper used for making utensils.** These are intermediate goods, mostly used as raw material or inputs for production of other commodities. These are not final goods.

TOPIC 2

BASIC CONCEPTS OF MICROECONOMICS

Microeconomics is the study of economic tendencies, or what is likely to happen when individuals make certain choices or when the factors of production change. Individual actors are often broken down into microeconomic subgroups, such as **buyers, sellers and business owners**.

THEORY OF CHOICE

A production function expresses the fact that a firm's output depends on the quantity of inputs it employs.

If the firm wants to maximize profits (defined as the difference between the sales value of its output and the cost of its inputs), it will select that combination of inputs that minimizes its expenses and therefore maximizes its revenue. Firms can seek efficiencies through the production function, but production choices depend, in part, on the demand for products. This leads to the part played by households in the system.

Each household is endowed with definite "tastes" that can be expressed in a series of **"utility functions**." A utility function (an equation similar to the production function) shows that the pleasure or satisfaction households derive from consumption will depend on the products they purchase and on how they consume these products.

It is necessary to assume that households seek to maximize satisfaction and that they will distribute their given incomes among available consumer goods in a way that derives the largest possible "utility" from consumption. Their incomes, however, remain to be determined.

In economic theory, the production function contributes to the calculation of **supply curves** (graphic representations of the relationship between product price and quantity that a seller is willing and able to supply) for firms in product markets and **demand curves** (graphic representations of the relationship between product price and the quantity of the product demanded) for firms in factor markets.

Similarly, the utility function contributes to the calculation of demand curves for households in product markets and the supply curves for households in factor markets. All of these demand and supply curves express the quantities demanded and supplied as a function of prices not because price alone determines economic behavior but because the purpose is to arrive at a theory of price determination.

The important point is that most demand curves are negatively inclined (consumers demand less as the price rises), while most supply curves are positively inclined (suppliers are likely to produce more at higher prices). The participants in a market will be driven to the price at which the two curves intersect; this price is called the

"equilibrium" price or "market-clearing" price because it is the only price at which supply and demand are equal.

DEMAND CURVE AND THE LAW OF DEMAND

The demand curve is a relation between the quantity of the good chosen by a consumer and the price of the good. The independent variable (price) is measured along the vertical axis and dependent variable (quantity) is measured along the horizontal axis. The demand curve gives the quantity demanded by the consumer at each price.

The demand curve will move downward from the left to the right, which expresses the law of demand: as the price of a given commodity increases, the quantity demanded decreases, all else being equal.



Law of Demand

If a consumer's demand for a good moves in the same direction as the consumer's income, the consumer's demand for that good must be inversely related to the price of the good that is the law of demand states that a higher price leads to a lower quantity demanded and that a lower price leads to a higher quantity demanded.

Income Effect and Substitution Effect

If the price of good increases, then there will be two different effects – known as the income and substitution effect.

If the price of goods increases than the good is relatively more expensive than alternative goods and people can switch to other goods. This is known as **Substitution effect.** The substitution effect states that an increase in the price of a good will encourage consumers to buy alternative goods. The substitution effect measures how much the higher price encourages consumers to use other goods, assuming the same level of income.

When the increase in price reduces disposable income and this lower income may reduce demand that is known as **Income effect.** The income effect looks at how the price change affects consumer income. If price rises, it effectively cuts disposable income and there will be lower demand.

Giffen Goods

A Giffen good is a good for which demand increases as the price increases, and falls when the price decreases. A Giffen good has an upward-sloping demand curve, as shown in the graph, which is contrary to the fundamental law of demand which states that quantity demanded for a product falls as the price increases, resulting in a downward slope for the demand curve.

A Giffen good is typically an inferior good that does not have easily available substitutes, as a result of which the income effect dominates the substitution effect. Giffen goods are quite rare, to the extent that there is some debate about their actual existence.

Staple foods are an example of Giffen Goods. They are consumed by people living in poverty for the sole



reason that they are unable to afford superior foodstuffs. As the price of a staple food rises, consumers are unable to supplement their diet with the more expensive foods, causing demand to increase as the price of the staple food increases.

Veblen Goods

A good for which demand increases as the price increases, because of its exclusive nature and appeal as a status symbol. A Veblen good, like a Giffen good, has an upward-sloping demand curve, which runs counter to the typical downward-sloping curve.

However, a Veblen good is generally a high-quality, coveted product, in contrast to a Giffen good which is an inferior product that does not have easily available substitutes. As well, the increase in demand for a Veblen good reflects consumer tastes and preferences, unlike a Giffen good, where higher demand is directly attributable to the price increase.

DEMAND ELASTICITY (DE)

Demand elasticity refers to how sensitive the demand for a good is to changes in other economic variables, such as the prices and consumer income. Demand elasticity is calculated by taking the percent change in quantity of a good demanded and dividing it by a percent change in another economic variable.

Higher demand elasticity for a particular economic variable means that consumers are more responsive to changes in this variable, such as price or income.

Case 1:- DE > 1, it is called elastic that is it reacts proportionately higher to changes in other economic factors.
 Case 2:- DE<1, it is called inelastic and the demand reacts proportionately lower to changes in another variable.
 When a change in demand is proportionately the same as that for another variable, the demand elasticity is called unit elastic.

TYPES OF DEMAND ELASTICITY

1. Cross Elasticity

The measure of responsiveness of the demand for a good towards the change in the price of a related good is called cross price elasticity of demand. It is always measured in percentage terms.

With the consumption behavior being related, the change in the price of a related good leads to a change in the demand of another good. Related goods are of two kinds, i.e. **substitutes and complementary goods**.

In case the two goods are not related, the Coefficient of Cross Elasticity is zero.



Substitute Goods

The cross elasticity of demand for substitute goods is always positive because the demand for one good increases if the price for the other good increases.

In case the two goods are substitutes for each other like tea and coffee, the cross price elasticity will be positive, i.e. if the price of coffee increases, the demand for tea increases.

Complementary Goods

The cross elasticity of demand for complimentary goods is negative. As the price for one goods increases, an item closely associated with that item and necessary for its consumption decreases because the demand for the main good has also dropped.

In case the goods are complementary in nature like pen and ink, then the cross elasticity will be negative, i.e. demand for ink will decrease if prices of pen increase or vice-versa.

2. Price Elasticity of Demand

Price elasticity of demand is a measure of the relationship between a change in the quantity demanded of a particular good and a change in its price. The degree to which rising price translates into falling demand is called demand elasticity or price elasticity of demand.

%age change in quantity demanded

Price Elasticity of Demand (PED) = % age change in price

If a small change in price is accompanied by a large change in quantity demanded, the product is said to be elastic (or responsive to price changes). Conversely, a product is inelastic if a large change in price is accompanied by a small amount of change in quantity demanded.

Price elasticity of demand measures the responsiveness of demand to changes in price for a particular good.

Case 1:- If **PED = 0**, demand is perfectly inelastic (i.e., demand does not change when price changes).

Case 2:- If 0 < PED < 1, demand is inelastic (this occurs when the percent change in demand is less than the percent change in price).

Case 3:- If PED = 1, demand is unit elastic (the percent change in demand is equal to the percent change in price).

Case 4:- If PED > 1, demand is perfectly elastic (demand is affected to a greater degree by changes in price).

3. Income Elasticity

Income elasticity of demand refers to the sensitivity of the quantity demanded for a certain good to a change in real income of consumers who buy this good, keeping all other things constant.

Income elasticity of demand means the ratio of the percentage change in the quantity demanded to the percentage in income.

Income Elasticity =
$$\frac{\%$$
age change in quantity demanded
%age change in income

Types of Income Elasticity of demand

A. Positive income elasticity of demand

If there is direct relationship between income of the consumer and demand for the commodity, then income elasticity will be positive. That is, if the quantity demanded for a commodity increases with the rise in income of the consumer and vice versa, it is said to be positive income elasticity of demand. For example: as the income of consumer increases, they consume more of superior (luxurious) goods. On the contrary, as the income of consumer decreases, they consume less of luxurious goods.

Positive income elasticity can be further classified into three types:

Income elasticity greater then unity

If the percentage change in quantity demanded for a commodity is greater than percentage change in income of the consumer, it is said to be income greater than unity. For example: When the consumer's income rises by 3% and the demand rises by 7%, it is the case of income elasticity greater than unity.

- Income elasticity equal to unity
 If the percentage change in quantity demanded for a commodity is equal to percentage change in income
 of the consumer, it is said to be income elasticity equal to unity. For example: When the consumer's
 income rises by 5% and the demand rises by 5%, it is the case of income elasticity equal to unity.
 - Income elasticity less then unity If the percentage change in quantity demanded for a commodity is less than percentage change in income of the consumer, it is said to be income greater than unity. For example: When the consumer's income rises by 5% and the demand rises by 3%, it is the case of income elasticity less than unity.

B. Negative income elasticity of demand

If there is inverse relationship between income of the consumer and demand for the commodity, then income elasticity will be negative. That is, if the quantity demanded for a commodity decreases with the rise in income of the consumer and vice versa, it is said to be negative income elasticity of demand.

For example: As the income of consumer increases, they either stop or consume less of inferior goods.

C. Zero income elasticity of demand

If the quantity demanded for a commodity remains constant with any rise or fall in income of the consumer and, it is said to be zero income elasticity of demand. For example: In case of basic necessary goods such as salt, kerosene, electricity, etc. there is zero income elasticity of demand.

Normal Goods and Inferior Goods

Depending on the values of the income elasticity of demand, goods can be broadly categorized as inferior goods and normal goods.

Normal Goods

Normal goods have positive income elasticity of demand; as incomes rise, more goods are demanded at each price level. The quantity of a good that the consumer demands can increase or decrease with the rise in income depending on the nature of the good. For most goods, the quantity that a consumer chooses increases as the consumer's income increases and decreases as the consumer's income decreases. Such goods are called normal goods. Thus, a consumer's demand for a normal good moves in the same direction as the income of the consumer. Normal goods whose income elasticity of demand is between zero and one are typically referred to as necessity goods, which are products and services that consumers will buy regardless of changes in their income levels. Examples of necessity goods and services include tobacco products, haircuts, water and electricity.

Inferior Goods

Inferior goods have a negative income elasticity of demand, as the income of the consumer increases, the demand for an inferior good falls, and as the income decreases, the demand for an inferior good rises. Examples of inferior goods include low quality food items like coarse cereals.

SUPPLY CURVE AND LAW OF SUPPLY

Supply curve is the graphic representation of the relationship between product price and quantity of product that a seller is willing and able to supply.

In most cases, the supply curve is drawn as a slope rising upward from left to right, since product price and quantity supplied are directly related (i.e., as the price of a commodity increases in the market, the amount supplied increases). This relationship is dependent on certain other things remaining constant.

Such things include the number of sellers in the market, the state of technology, the level of production costs, the seller's price expectations, and the prices of related products.

A change in any of these conditions will cause a shift in the supply curve. A shifting of the curve to the left corresponds to a decrease in the quantity of product supplied, whereas a shift to the right reflects an increase.

Law of Supply

Law of supply states that other factors remaining constant, price and quantity supplied of a good are directly related to each other. In other words, when the price paid by buyers for a good rises, then suppliers increase the supply of that good in the market.

Law of supply depicts the producer behavior at the time of changes in the prices of goods and services. When the price of a good rises, the supplier increases the supply in order to earn a profit because of higher prices.





The law of supply indicates the direction of change if price goes up, supply will increase. But how much supply will rise in response to an increase in price cannot be known from the law of supply. To quantify such change we require the concept of elasticity of supply that measures the extent of quantities supplied in response to a change in price.

SUPPLY ELASTICITY

The price elasticity of supply of a good measures the responsiveness of quantity supplied to changes in the price of the good. More specifically, the price elasticity of supply, is defined as follow

Price Elasticity of Supply(E) = $\frac{\text{%age change in quantity supplied}}{\text{%age change in price}}$

Cases of Elasticity Supply:

(a) Elastic Supply (E_s > 1):

Supply is said to be elastic when a given percentage change in price leads to a larger change in quantity supplied. Under this situation, the numerical value of E_s will be greater than one but less than infinity.

(b) Inelastic Supply ($E_s < 1$):

Supply is said to be inelastic when a given percentage change in price causes a smaller change in quantity supplied. Here the numerical value of elasticity of supply is greater than zero but less than one.

(c) Unit Elasticity of Supply (E_s = 1):

If price and quantity supplied change by the same magnitude, then we have unit elasticity of supply. Any straight line supply Curve passing through the origin.

MARKET EQUILIBRIUM

Equilibrium defined as a situation where the plans of all consumers and firms in the market match and the market clears. In equilibrium, the aggregate quantity that all firms wish to sell equals the quantity that all the consumers in the market wish to buy; in other words, market supply equals market demand.

The price at which equilibrium is reached is called **equilibrium price** and the quantity bought and sold at this price is called **equilibrium quantity**.

If at a price, market supply is greater than market demand, we say that there is an **excess supply** in the market at that price and if market demand exceeds market supply at a price, it is said that **excess demand** exists in the market at that price. Price Px Px Qx Quantity

Therefore, equilibrium in a perfectly competitive market can be defined alternatively as zero excess demand-zero excess supply situation. Whenever market supply is not equal to market demand, and hence the market is not in equilibrium, there will be a tendency for the price to change.

MARKET STRUCTURE

PERFECT COMPETITION

Perfect competition is a market structure in which the following five criteria are met:

- All firms sell an identical product;
- All firms are price takers they cannot control the market price of their product;
- All firms have a relatively small market share;
- Buyers have complete information about the product being sold and the prices charged by each firm; and
- The industry is characterized by freedom of entry and exit.

Perfect competition is sometimes referred to as "pure competition". Perfect competition is a theoretical market structure. It is primarily used as a benchmark against which other, real-life market structures are compared. The industry that most closely resembles perfect competition in real life is agriculture.

Ideally, perfect competition is a hypothetical situation which cannot possibly exist in a market. However, perfect competition is used as a base to compare with other forms of market structure. No industry exhibits perfect competition in India.

MONOPOLY

A market structure characterized by a single seller, selling a unique product in the market. In a monopoly market, the seller faces no competition, as he is the sole seller of goods with no close substitute.

A monopoly is a **profit maximizer** because it can change the supply and price of a good or service to generate a profit. It can find the level of output that maximizes its profit by determining the point at which its marginal revenue equals its marginal cost.

Monopoly is a market situation in which the firm is independent of price changes in the product of each and every other firm. In monopoly, the slope of the demand curve is downward to the right.

Following are the main features of the monopoly market structure:

• Single Seller:

It is the main feature of monopoly. Under monopoly market conditions, there is a single seller or producer of products. In such a case, buyers are not left with any other option; therefore, they are required to purchase from the only seller.

This leads to a full control of the seller on the supply of products in the market. In addition, under monopoly, the seller enjoys the power to decide the price of products. Therefore, in monopoly, there is no distinction between an organization and industry as one organization constitutes the whole industry.

The monopoly market makes the single seller the market controller as well as the price maker. He enjoys the power of setting the price for his goods.

• No Substitutes of the Product:

Under monopoly, the seller deals in the product that is unique in nature and does not have close substitutes. The differentiation of products is absent in case of monopoly market.

• Barriers to Entry:

Under monopoly, there are a number of entry barriers that restrict the entry of new organizations. These barriers include exclusive resource ownership, copyrights, high initial investment, and other restrictions by government.

Restriction on Information:

Under monopoly, information is restricted to the organization and people working within the organization. This information is not available to others and can be transferred only in the form of copyrights and patents.

MONOPOLISTIC COMPETITION

The term monopolistic competition represents the combination of monopoly and perfect competition. Monopolistic competition refers to a market situation in which there are a large number of buyers and sellers of products. However, the product of each seller is different in one aspect or the other.

It characterizes an industry in which many firms offer products or services that are similar, but not perfect substitutes. All firms have the same, relatively low degree of market power; they are all price makers.

In the long run, demand is highly elastic, meaning that it is sensitive to price changes. In the short run, economic profit is positive, but it approaches zero in the long run.

Many small businesses operate under conditions of monopolistic competition, including independently owned and operated high-street stores and restaurants. In the case of restaurants, each one offers something different and possesses an element of uniqueness, but all are essentially competing for the same customers.

Some of the characteristics of monopolistic competition are as follows:

Large Number of Sellers and Buyers:

It refers to one of the important characteristic of monopolistic competition. Similar to perfect competition, the size of sellers and buyers is also large in monopolistic competition.

• Differentiated Products:

It constitutes the characteristic feature of monopolistic competition. Under monopolistic competition, the products of sellers are different in many respects, such as difference in brand, shape, color, style, trademarks, durability, and quality. Therefore, buyers can easily differentiate among the available products in more than one way. However, under monopolistic competition, products are close substitutes of each other.

• Free Entry and Exit:

Under monopolistic competition there are no restrictions imposed on organizations for their entry and exit from the market. This is the same condition as prevailing under perfect competition.

Restricted Mobility of Factors of Production:

The factors of production as well as goods and services are not perfectly mobile. This is because if an organization is willing to move its factors of production or goods and services, it has to pay heavy transportation cost. This leads to difference in the prices of products of organizations.

• Price Policy:

It affects the market prices of a product. In monopolistic competition, if the prices of products are higher, then the buyers would switch to other sellers due to close substitutability of products. In such a scenario, the organization would not be able to sell more. Therefore, organizations do not enjoy complete control over price in monopolistic competition.

• Advertising

Firms operating under monopolistic competition usually have to engage in advertising. Firms are often in fierce competition with other (local) firms offering a similar product or service, and may need to advertise on a local basis, to let customers know their differences.

The existence of monopolistic competition partly explains the survival of small firms in modern economies. The majority of small firms in the real world operate in markets that could be said to be monopolistically competitive. As an economic model of competition, monopolistic competition is more realistic than perfect competition - many familiar and commonplace markets have many of the characteristics of this model.

OLIGOPOLY

Oligopoly is a market structure in which a small number of firms have the large majority of market share. An oligopoly is similar to a monopoly, except that rather than one firm, two or more firms dominate the market. There is no precise upper limit to the number of firms in an oligopoly, but the number must be low enough that the actions of one firm significantly impact and influence the others.

The main characteristics of oligopoly are as follows:

• Few Sellers and Many Buyers:

It is the primary feature of oligopoly. Under oligopoly, few sellers dominate the entire industry. These sellers influence the prices of each other. Moreover, in oligopoly, there are a large number of buyers.

Homogeneous or Differentiated Products:

In oligopoly, organizations either produce homogenous products (similar to perfect competition) or differentiated products (as in case of monopoly). If organizations produce homogeneous products the industry is said to be pure or perfect oligopoly. On the other hand, in case of differentiated products, the industry is known as differentiated or imperfect oligopoly.

• Barriers in Entry and Exit:

It prevents the entry of new organizations. The barriers of entry and exit distinguish the oligopoly market from monopolistic competition. In oligopolistic market, new organizations cannot easily enter the market due to various legal, social, and technological barriers. In such a case, existing organizations have a complete control over the market.

• Mutual Interdependence:

Mutual interdependence implies that organizations are influenced by each other's decisions. These decisions include pricing and output decisions of organizations.

• Lack of Uniformity:

In oligopoly, organizations are not uniform in their sizes. Some organizations are very large in size while some of them are very small.

• Existence of Price Rigidity:

It implies that organizations do not prefer to change the prices of their products in oligopoly. This is because the change in price would not be profitable for an organization in oligopoly. In case, an organization reduces its price, its rivals also reduce prices, which adversely affect the profits of the organization. In case, the organization increases prices, it would lose buyers.

In monopoly and perfect competition, organizations do not take into consideration the decisions and reactions of other organizations, therefore, the decision of organizations in such types of market structures are independent. However, in oligopoly, an organization is not able to take an independent decision.

In India, markets for automobiles, cement, steel, aluminium, etc, are the examples of oligopolistic market. In all these markets, there are few firms for each particular product.

MONOPSONY

In monopsony, sometimes referred to as a buyer's monopoly, is a market condition similar to a monopoly except that a large buyer, not a seller, controls a large proportion of the market and drives prices down.

A monopsony occurs when a single firm has market power in employing its factors of production. It acts as a sole purchaser for multiple sellers, driving down the price of seller inputs through the amount of quantity that it demands.

Monopsonies take many different shapes and sizes, but most commonly occur when a single employer controls an entire labor market. When this happens, the sellers, in this case the potential employees, compete on wages for the few jobs available, driving down employee costs for the business.

The technology industry is a great example of this type of monopsony. With only a few large tech companies in the market for engineers, major players like Cisco and Oracle have been accused of colluding and choosing not to compete with each other on the wages they offer technical positions. This, in turn, suppresses wages so that the major tech companies realize lower operating costs and higher profits. This example also highlights the fact that a group of companies can act as a monopsony.

COST OF PRODUCTION

Production cost refers to the cost incurred by a business when manufacturing a good or providing a service. Production costs include a variety of expenses including labor, raw materials, consumable manufacturing supplies and general overhead. Additionally, any taxes levied by the government or royalties owed by natural resource extracting companies are also considered production costs.

Fixed and variable costs

Fixed costs are those that do not vary with output and typically include rents, insurance, depreciation, set-up costs, and normal profit. They are also called overheads.



Variable costs are costs that do vary with output, and they are also called direct costs. Examples of typical variable costs include fuel, raw materials, and some labour costs.

Total fixed costs and Total variable costs

Given that total fixed costs (TFC) are constant as output increases, the curve is a horizontal line on the cost graph. The total variable cost (TVC) curve slopes up at an accelerating rate, reflecting the law of diminishing marginal returns.

Total costs

The total cost (TC) curve is found by adding total fixed and total variable costs. Its position reflects the amount of fixed costs, and its gradient reflects variable costs.

Average fixed costs

Average fixed costs are found by dividing total fixed costs by output. As fixed cost is divided by an increasing output, average fixed costs will continue to fall. The average fixed cost (AFC) curve will slope down continuously, from left to right.



Average Variable Costs

Average variable costs are found by dividing total variable costs by output. The average variable cost (AVC) curve will at first slope down from left to right, then reach a minimum point, and rise again.

Average Total Cost

Average total cost (ATC) is also called average cost or unit cost. Average total costs are a key cost in the theory of the firm because they indicate how efficiently scarce resources are being used.

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Average Total Cost = Average Fixed Cost + Average Variable Cost
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Average total cost (ATC) can be found by adding average fixed costs (AFC) and average variable costs (AVC). The ATC curve is also 'U' shaped because it takes its shape from the AVC curve, with the upturn reflecting the onset of diminishing returns to the variable factor.

Marginal Costs

Marginal cost is the cost of producing one extra unit of output. It can be found by calculating the change in total cost when output is increased by one unit. It is important to note that marginal cost is derived solely from variable costs, and not fixed costs.

The marginal cost curve falls briefly at first, then rises. Marginal costs are derived from variable costs and are subject to the principle of variable proportions.

It is the leading cost curve, because changes in total and average costs are derived from changes in marginal cost.



Average Total Cost and Marginal Cost

Average total cost and marginal cost are connected because they are derived from the same basic numerical cost data. The general rules governing the relationship are:

Marginal cost will always cut average total cost from below.

When marginal cost is below average total cost, average total cost will be falling, and when marginal cost is above average total cost, average total cost will be rising as can be seen in the graph.

A firm is most productively efficient at the lowest average total cost, which is also where average total cost (ATC) = marginal cost (MC).

Opportunity Cost

Opportunity cost refers to a benefit that a person could have received, but gave up, to take another course of action. Also said as an opportunity cost represents an alternative given up when a decision is made. This cost is, therefore, most relevant for two mutually exclusive events.

When assessing the potential profitability of various investments, businesses look for the option that is likely to yield the greatest return. Often, this can be determined by looking at the expected rate of return for a given investment vehicle. However, businesses must also consider the opportunity cost of each option. Assume that, given a set amount of money for investment, a business must choose between investing funds in securities or using it to purchase new equipment. No matter which option is chosen, the potential profit that is forfeited by not investing in the other option is called the opportunity cost. This is often expressed as the difference between the expected returns of each option:



