

# **MANAGERIAL ECONOMICS**

## **UNIT –I**

### **Significance of Economics and Managerial Economics:**

**Economics:** Definitions of Economics- Wealth, Welfare and Scarcity definitions Classification of Economics- Micro and Macro Economics.

**Managerial Economics:** Definition, Nature and Scope of Managerial Economics, Differences between Economics and Managerial Economics, Main areas of Managerial Economics, Managerial Economics with other disciplines.

## **UNIT-II**

### **Demand and Utility Analysis:**

**Demand** - Definition, Meaning, Nature and types of demand, Demand function, Law of demand - Assumptions and limitations. Exceptional demand curve.

**Elasticity of demand** - Definition, Measurement of elasticity, Types of Elasticity (Price, Income, Cross and Advertisement), Practical importance of Price elasticity of demand, Role of income elasticity in business decisions, Factors governing Price Elasticity of demand.

**Utility Analysis:** Utility- Meaning, Types of Economic Utilities, Cardinal and Ordinal Utility, Total Utility, Marginal Utility, The law of Diminishing Marginal Utility and its Limitations.

## **UNIT –III**

### **Theory of Production and Cost analysis:**

**Production** - Meaning, Production function and its assumptions, use of production function in decision making;

**Cost analysis** - Nature of cost, Classification of costs - Fixed vs. Variable costs, Marginal cost, Controllable vs. Non - Controllable costs, Opportunity cost, Incremental vs. Sunk costs, Explicit vs. Implicit costs, Replacement costs, Historical costs, Urgent vs. Postponable costs, Escapable vs. Unavoidable costs, Economies and Diseconomies of scale.

## **UNIT –IV**

**Market Structures:** Definition of Market, Classification of markets; Salient features or conditions of different markets - Perfect Competition, Monopoly, Duopoly , Oligopoly, Importance of kinked demand curve ;Monopolistic Competition.

## **UNIT –V**

### **Pricing and Business Cycles:**

**Pricing Analysis :** Pricing – Significance; Different Pricing methods- Cost plus pricing, Target pricing, Marginal cost pricing, Going -rate pricing, Average cost pricing, Peak load pricing , Pricing of joint Products, Pricing over the life cycle of a Product, Skimming pricing Penetration pricing, Mark- up and Mark- down pricing of retailers.

**Business cycles** - Definition, Characteristics, Phases, Causes and Consequences; Measures to solve problems arising from Business cycles.

# UNIT I

## SIGNIFICANCE OF ECONOMICS AND MANAGERIAL ECONOMICS

### MEANING OF ECONOMICS

The field of economics is very practical and realistic. It attaches to the survival and financial aspects of our lives. Economics is a determinant of sustenance for both the country and its individuals.

The continuous change in the economy, prices and demands affect the consumption and production levels. Through economics, it becomes easier to understand the variables that can possibly affect the economy and the country's total income. The supply and demand are also explained as closely related under economics.

Economics is considered as a branch of social sciences that deals in understanding the market and economy of a country, area or region. It investigates three main activities that surround the goods and services. These are – production, consumption, and distribution. Production is the amount of goods and services manufactured and produced per year. Consumption is the amount of goods and services that are used by the population per year. Distribution is the availability of goods and services to the various sections of a country.

### ECONOMIC GOALS

Any science moves with certain goals to be achieved. Economics has become now a crucial branch of knowledge. Being a social science it keeps on revising its goals from time to time. The list might be quite large, but we would like to focus only on certain major goals of economics as given under:

1. *A low rate of unemployment*: People willing to work should be able to find jobs reasonably quickly. Widespread unemployment is demoralising and it represents an economic waste. Society forgoes the goods and services that the unemployed could have produced.
2. *Price stability*: It is desirable to avoid rapid increases-or decreases- in the average level of price.
3. *Efficiency*: When we work, we want to get as much as we reasonably can take out of our productive efforts. For this, efficient technology becomes quite useful.
4. *An equitable distribution of income*: When many live in affluence, no group of citizens should suffer stark poverty. Given this, developing countries are strategising goals like participatory growth and inclusive growth.
5. *Growth*: Continuing growth, which would make possible an even higher standard of living in the

future, is generally considered an important objective.

6. *Economic freedom and choice*: Any economy should grow and develop in such a manner that people should get more choices and there should not be any outside pressure on their choices.
7. *Economic welfare*: Economic policies should be pursued in such a manner that welfare of the people or the social benefits get maximised.
8. *Sustainable development*: It has become a major challenge for economists to carry on the process of economic growth in such a manner that the resources are optimally utilized not only for intergenerational equity but also for sustainable development in quite long run.

### **Definition of Economics – Alfred Marshall**

According to Alfred Marshall, economics is defined as the “means to ends”. Here, the means are the goods and services that are available. The ends refer to the needs and requirements by people that are satisfied through the means. This definition considered economics as a study of societal needs and means.

Economics is the study of scarcity and how it affects the use of resources, the production of goods and services, the growth of production and well-being over time, and many other important and complicated issues that affect society.

### **Wealth Definition – Adam Smith**

The wealth definition was given by Adam Smith. According to this definition, economics is termed as the “science of wealth”, that is, the economy of a nation depends on the wealth generated through the goods and services. This includes the exports and imports of the goods and services, which is indicated by consumption and production.

### **Welfare definition – Alfred Marshall**

The welfare definition of economics is an attempt by Alfred Marshall, a pioneer of neoclassical economics, to redefine his field of study. This definition expands the field of economic science to a larger study of humanity.

Specifically, Marshall's view is that economics studies all the actions that people take in order to achieve economic welfare. In the words of Marshall, "man earns money to get material welfare." Others since Marshall have described his remark as the "welfare definition" of economics. This definition enlarged the scope of economic science by emphasizing the study of wealth and humanity together, rather than wealth alone.

## Scarcity Definition – Lionel Robbins

According to this definition of economics, the appropriate allocation of scarce resources is the main objective of economics. This definition studies the relation between human behaviour and use of resources that are scarce to meet the requirements.

### Microeconomics vs. Macroeconomics:

Economics is divided into two categories: microeconomics and macroeconomics. Microeconomics is the study of individuals and business decisions, while macroeconomics looks at the decisions of countries and governments.

Though these two branches of economics appear different, they are actually interdependent and complement one another. Many overlapping issues exist between the two fields.

- Microeconomics studies individuals and business decisions, while macroeconomics analyzes the decisions made by countries and governments.
- Microeconomics focuses on supply and demand, and other forces that determine price levels, making it a bottom-up approach.
- Macroeconomics takes a top-down approach and looks at the economy as a whole, trying to determine its course and nature.
- Investors can use microeconomics in their investment decisions, while macroeconomics is an analytical tool mainly used to craft economic and fiscal policy.

### Microeconomics :

Microeconomics is the study of decisions made by people and businesses regarding the allocation of resources, and prices at which they trade goods and services. It considers taxes, regulations, and government legislation.

Microeconomics focuses on supply and demand and other forces that determine price levels in the economy. It takes a bottom-up approach to analyzing the economy. In other words, microeconomics tries to understand human choices, decisions, and the allocation of resources.

Having said that, microeconomics does not try to answer or explain what forces should take place in a market. Rather, it tries to explain what happens when there are changes in certain conditions.

For example, microeconomics examines how a company could maximize its production and capacity so that it could lower prices and better compete. A lot of microeconomic information can be gleaned from company financial statements.

Microeconomics involves several key principles, including (but not limited to):

- **Demand, Supply and Equilibrium:** Prices are determined by the law of supply and demand. In a perfectly competitive market, suppliers offer the same price demanded by consumers. This creates economic equilibrium.

- **Production Theory:** This principle is the study of how goods and services are created or manufactured.
- **Costs of Production:** According to this theory, the price of goods or services is determined by the cost of the resources used during production.
- **Labor Economics:** This principle looks at workers and employers and tries to understand patterns of wages, employment, and income.

The rules in microeconomics flow from a set of compatible laws and theorems, rather than beginning with empirical study.

## **Macroeconomics**

Macroeconomics, on the other hand, studies the behavior of a country and how its policies impact the economy as a whole. It analyzes entire industries and economies, rather than individuals or specific companies, which is why it's a top-down approach. It tries to answer questions such as "What should the rate of inflation be?" or "What stimulates economic growth?"

Macroeconomics examines economy-wide phenomena such as gross domestic product (GDP) and how it is affected by changes in unemployment, national income, rates of growth, and price levels.

Macroeconomics analyzes how an increase or decrease in net exports impacts a nation's capital account, or how gross domestic product (GDP) is impacted by the unemployment rate.

Macroeconomics focuses on aggregates and econometric correlations, which is why governments and their agencies rely on macroeconomics to formulate economic and fiscal policy. Investors who buy interest-rate-sensitive securities should keep a close eye on monetary and fiscal policy.

John Maynard Keynes is often credited as the founder of macroeconomics, as he initiated the use of monetary aggregates to study broad phenomena. Some economists dispute his theories, while many Keynesians disagree on how to interpret his work.

## **MANAGERIAL ECONOMICS:**

**Managerial economics** is a branch of economics involving the application of economic methods in the organizational decision-making process. Economics is the study of the production, distribution, and consumption of goods and services. Managerial economics involves the use of economic theories and principles to make decisions regarding the allocation of scarce resources. It guides managers in making decisions relating to the company's customers, competitors, suppliers, and internal operations.

Managerial economists define managerial economics in several ways:

1. It is the application of economic theory and methodology in business management practice.

2. Focus on business efficiency.
3. Defined as "combining economic theory with business practice to facilitate management's decision-making and forward-looking planning."
4. Includes the use of an economic mindset to analyze business situations.
5. Described as "a fundamental discipline aimed at understanding and analyzing business decision problems".
6. Is the study of the allocation of available resources by enterprises of other management units in the activities of that unit.
7. Deal almost exclusively with those business situations that can be quantified and handled, or at least quantitatively approximated, in a model.

**The two main purposes of managerial economics are:**

- To optimize decision making when the firm is faced with problems or obstacles, with the consideration and application of macro and microeconomic theories and principles.
- To analyze the possible effects and implications of both short and long-term planning decisions on the revenue and profitability of the business.

The core principles that managerial economist use to achieve the above purposes are:

- monitoring operations management and performance,
- target or goal setting
- talent management and development.

In order to optimize economic decisions, the use of operations research, mathematical programming, strategic decision making, game theory and other computational methods are often involved. The methods listed above are typically used for making quantitative decisions by data analysis techniques.

The theory of Managerial Economics includes a focus on; incentives, business organization, biases, advertising, innovation, uncertainty, pricing, analytics, and competition. In other words, managerial economics is a combination of economics and managerial theory. It helps the manager in decision-making and acts as a link between practice and theory. Furthermore, managerial economics provides the tools and techniques that allow managers to make the optimal decisions for any scenario.

Some examples of the types of problems that the tools provided by managerial economics can answer are:

- The price and quantity of a good or service that a business should produce.
- Whether to invest in training current staff or to look into the market.
- When to purchase or retire fleet equipment.
- Decisions regarding understanding the competition between two firms based on the motive of profit maximization.
- The impacts of consumer and competitor incentives on business decisions

## **Definition of Managerial Economics**

Managerial economics is defined as the branch of economics which deals with the application of various concepts, theories, methodologies of economics to solve practical problems in business management.

## **Nature of Managerial Economics**

The managerial economics is an applied subject which uses the economic theory and concepts in solving managerial problems.

**i) Applied in Nature:** Managerial economics help the managers in business decision making by applying the economic theories and models. In the words of S. K. Deo, “Managerial economics is an application of economic theory, particularly of microeconomics theory, to practical problem solving.”

**ii) Managerial Economic is both Art and Science:** Managerial economics can be compared to a science as it is a discipline of decision making with regard to limited resources with alternate applications. Managerial economics observes internal and external environment for managerial decision making. As an art, it requires the knowledge, understanding and capability in applying economic theory to achieve the firms’ objective.

**iii) Dynamic:** Managerial Economics deals with human-beings, firms and different market situations. The stream is dynamic by nature and change itself time to time to cope-up with dynamism and vitality according to the diverse nature of individuals and markets.

**iv) Pragmatic:** Managerial economics is pragmatic in nature as it solves the management decision problems by applying economic theory and various quantitative methods. It finds the optimal solution to various decision making problems of businesses/ firms.

**v) Normative:** Managerial economics is normative also as it includes the word ‘ought’ or ‘should’ and emphasizes on the result of the firm or economy. Managerial economics targets the maximum achievements of a firm or an economy.

**vi) Inter-Disciplinary:** The subject has its liaison with other disciplines like mathematics, statistics, accounting, operational research, psychology, etc. for proposing economic theories and concepts for managerial decisions making. According to D. C. Hague, “Managerial Economics is concerned with the logic of economics, mathematics, and statistics to provide effective ways of thinking about managerial decision making.”

**vii) Based on Assumptions and limitations:** The validity of the managerial concepts are not universal as each concept and theory is followed by certain assumption and limitations. The theory may not hold good at all if there is any change in assumptions.

## **Scope of Managerial Economics:**

The scope of managerial economics refers to its area of study. Managerial economics refers to its area of study. Managerial economics, Provides management with a strategic planning tool that can be used to get a clear perspective of the way the business world works and what can be

done to maintain profitability in an ever-changing environment. Managerial economics is primarily concerned with the application of economic principles and theories to five types of resource decisions made by all types of business organizations.

- a. The selection of product or service to be produced.
- b. The choice of production methods and resource combinations.
- c. The determination of the best price and quantity combination
- d. Promotional strategy and activities.
- e. The selection of the location from which to produce and sell goods or service to consumer.

The production department, marketing and sales department and the finance department usually handle these five types of decisions.

The scope of managerial economics covers two areas of decision making

- a. Operational or Internal issues
- b. Environmental or External issues

### **a. Operational issues:**

Operational issues refer to those, which arise within the business organization and they are under the control of the management. Those are:

1. Theory of demand and Demand Forecasting
2. Pricing and Competitive strategy
3. Production cost analysis
4. Resource allocation
5. Profit analysis
6. Capital or Investment analysis
7. Strategic planning

### **1.Demand Analyses and Forecasting:**

A firm can survive only if it is able to meet the demand for its product at the right time, within the right quantity. Understanding the basic concepts of demand is essential for demand forecasting. Demand analysis should be a basic activity of the firm because many of the other activities of the firm depend upon the outcome of the demand forecast. Demand analysis provides:

1. The basis for analyzing market influences on the firm's products and thus helps in the adaptation to those influences.
2. Demand analysis also highlights the factors, which influence the demand for a product. This helps to manipulate demand. Thus demand analysis studies not only the price elasticity but also income elasticity, cross elasticity as well as the influence of advertising expenditure. With the advent of computers, demand forecasting has become an increasingly important function of managerial economics.



## **2. Pricing and competitive strategy:**

Pricing decisions have been always within the preview of managerial economics. Pricing policies are merely a subset of broader class of managerial economic problems. Price theory helps to explain how prices are determined under different types of market conditions. Competitions analysis includes the anticipation of the response of competitions the firm's pricing, advertising and marketing strategies. Product line pricing and price forecasting occupy an important place here.

## **3. Production and cost analysis:**

Production analysis is in physical terms. While the cost analysis is in monetary terms cost concepts and classifications, cost-out-put relationships, economies and diseconomies of scale and production functions are some of the points constituting cost and production analysis.

## **4. Resource Allocation:**

Managerial Economics is the traditional economic theory that is concerned with the problem of optimum allocation of scarce resources. Marginal analysis is applied to the problem of determining the level of output, which maximizes profit. In this respect linear programming techniques has been used to solve optimization problems. In fact lines programming is one of the most practical and powerful managerial decision making tools currently available.

## **5. Profit analysis:**

Profit making is the major goal of firms. There are several constraints here an account of competition from other products, changing input prices and changing business environment hence in spite of careful planning, there is always certain risk involved. Managerial economics deals with techniques of averting of minimizing risks. Profit theory guides in the measurement and management of profit, in calculating the pure return on capital, besides future profit planning.

## **6.Capital or investment analyses:**

Capital is the foundation of business. Lack of capital may result in small size of operations. Availability of capital from various sources like equity capital, institutional finance etc. may help to undertake large-scale operations. Hence efficient allocation and management of capital is one of the most important tasks of the managers. The major issues related to capital analysis are:

1. The choice of investment project

2. Evaluation of the efficiency of capital
3. Most efficient allocation of capital

Knowledge of capital theory can help very much in taking investment decisions. This involves, capital budgeting, feasibility studies, analysis of cost of capital etc.

## **7. Strategic planning:**

Strategic planning provides management with a framework on which long-term decisions can be made which has an impact on the behavior of the firm. The firm sets certain long-term goals and objectives and selects the strategies to achieve the same. Strategic planning is now a new addition to the scope of managerial economics with the emergence of multinational corporations. The perspective of strategic planning is global.

It is in contrast to project planning which focuses on a specific project or activity. In fact the integration of managerial economics and strategic planning has given rise to be new area of study called corporate economics.

## **B. Environmental or External Issues:**

An environmental issue in managerial economics refers to the general business environment in which the firm operates. They refer to general economic, social and political atmosphere within which the firm operates. A study of economic environment should include:

- a. The type of economic system in the country.
- b. The general trends in production, employment, income, prices, saving and investment.
- c. Trends in the working of financial institutions like banks, financial corporations, insurance companies
- d. Magnitude and trends in foreign trade;
- e. Trends in labour and capital markets;
- f. Government's economic policies viz. industrial policy monetary policy, fiscal policy, price policy etc.

The social environment refers to social structure as well as social organization like trade unions, consumer's co-operative etc. The Political environment refers to the nature of state activity, chiefly states' attitude towards private business, political stability etc.

The environmental issues highlight the social objective of a firm i.e.; the firm owes a responsibility to the society. Private gains of the firm alone cannot be the goal.

The environmental or external issues relate managerial economics to macro economic theory while operational issues relate the scope to micro economic theory. The scope of managerial economics is ever widening with the dynamic role of big firms in a society.

## **DIFFERENCE BETWEEN ECONOMICS AND MANAGERIAL ECONOMICS**

<b>Basis of Difference</b>	<b>Economics</b>	<b>Managerial Economics</b>
<b>Meaning</b>	It involves the framing of economic principles to solve economic problems.	It involves the application of economic principles to solve economic problems.
<b>Character</b>	It is microeconomic as well as macroeconomic in character.	It is microeconomic in character.
<b>Main Task</b>	In it, the fulfilment of the needs of individuals as well as entities is the main task.	It involves proper decision making as its main task.
<b>Nature</b>	It is positive as well as normative in nature.	It is only normative in nature.
<b>Scope</b>	It has a wider scope.	It has a narrower scope as compared to the scope of Economics.
<b>Branches</b>	It involves managerial economics as its applied branch.	It is an applied branch of economics.
<b>Concerned with</b>	It is concerned with all the theories starting from production to consumption including distribution.	It is concerned with only profit theory and ignores other theories.
<b>Analysis Involved</b>	It includes the analysis of macro-level issues like growth, inflation, and employment, etc.	It includes the analysis of micro-level issues like demand, supply, and profit, etc.
<b>Concentration</b>	It concentrates only on the economic aspects of any business problem.	It concentrates on both economic as well as non-economic aspects of any

**Validity of Assumptions**

It is based on certain assumptions.

business problem.

In it, some assumptions become invalid when applied.

**MAIN AREAS OF MANAGERIAL ECONOMICS:**

The main Areas of Managerial Economics:

**1. Demand Decision:**

- The analysis and forecasting of demand for a given product and service is the first task of the managerial economist.
- The behavioural implications such as the needs of the customers responses to a given change in the price or supply are analysed in a scientific manner.
- The impact of changes in prices, income levels and prices of alternative products: / services are assessed and accordingly the decisions are taken to maximise the profits.
- Demand at different price levels at different points of times forecast to plan the supply accordingly and initiate changes in price, it is necessary, to enlarge the customer base and gain more profits.
- Determination elasticity of demand and demand forecasting constitute the strategic issues that the material economist handles in a scientific way.

**2. Input Output decision:**

- Here, the costs of inputs in relation to output are studied to optimise the profits.
- Production function and cost function are estimated given certain parameters.
- The behaviour of costs at different levels of production is assessed here.
- some costs are fixed, some are semi-variable and others are perfectly variable.
- The quantity of production increases remains constant or decreases with additional increase in outputs.
- This decision deals with changes in the production following changes in inputs which could be substitutes or complementary.
- The entire focus of this decision is to optimise(maximise) the output at minimum cost.

### **3. Price Output Decision:**

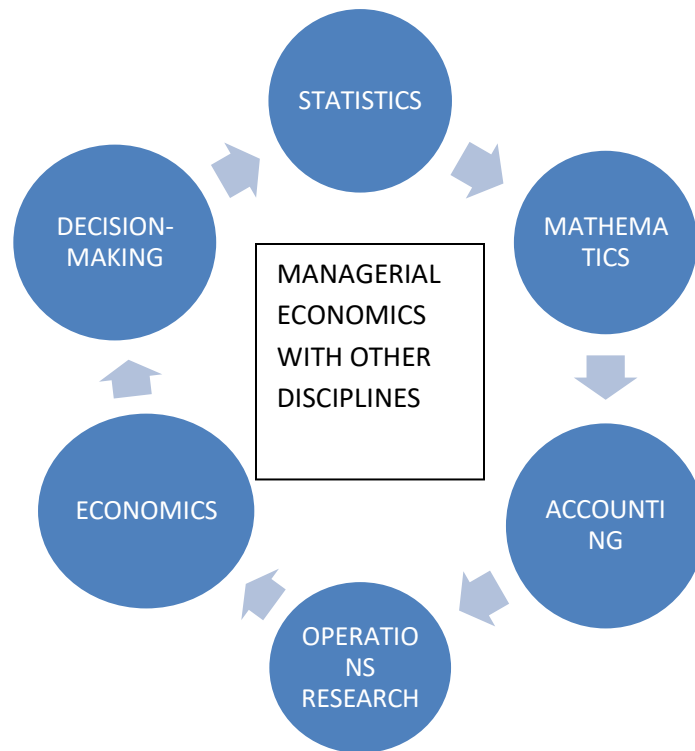
- Here, the production is ready and the task is to determine the price these in different market situations such as perfect market and imperfect markets ranging from monopoly, monopolistic competition, duopoly and oligopoly.
- The features of these markets and how price is determined in each of these competitive situations is studied here.
- The pricing policies, methods. strategies and practices constitute crucial part of the study of managerial economics.

### **4.Profit related Decisions**

- Here we employ the techniques such as Break even analysis, cost reduction and cost control and ratio analysis to ascertain the level of profits.
- We determine break-even point beyond which firm start getting profits.
- In other words, if the firm produces less than break-even point, it loses.
- We can also plan the production needed to attain a given level of profits in short-run
- Cost reduction and cost control deal with the strategies to reduce the wastage and thereby reduce the costs..

## MANAGERIAL ECONOMICS WITH OTHER DISCIPLINES

### Relationship of Managerial Economics with Other Disciplines or Subjects



#### **1. Managerial Economics and Statistics**

Statistical tools are playing very important role in business decision-making. Statistical techniques are used in collecting, processing and analyzing data, testing the validity of the economic laws with the real economic phenomenon before they are applied to business analysis. Probable economic events are the basis of a good business decision. Various statistical tools Such as theory of probability, forecasting techniques etc., help the decision-makers in the prediction of future economic events.

#### **2. Managerial Economics and Mathematics**

The main challenge of a businessman is how to minimize cost or how to maximize profit or how to optimize sales. To find the answers of these questions, various mathematical concepts and techniques are widely used in economic logic. The knowledge of geometry, trigonometry and algebra is not only important but various mathematical tools and techniques such as logarithms and exponentials, vectors, matrix, calculus, differential and integral are also necessary for managerial economics.

#### **3. Managerial Economics and Accounting**

Various data are required by a managerial economist for the decision-making purpose. Accounting details are included in data. For example, the profit and loss statement of a firm

gives details about the performance of the firm and guides the managerial economist to prepare the future course of action-whether it should improve or close down.

#### **4. Managerial Economics and Operations Research**

Models and tools of operations research or quantitative techniques are affecting the managerial economics. Operations research is a subject that consists of a number of models and analytical tools which are developed on the basis of inter-disciplinary research for solving complex problems of planning and allocation of scarce resources, primarily in defense industries.

Managerial economics has generalised and developed the models and tools of operations research for the purpose of business decision-making. Linear programming models, inventory models, game theory, etc. are a few tools that have originated in the works of operation researchers.

#### **5. Managerial Economics and Theory of Decision-Making**

Decision theory has been developed to deal with problems of choice or decision- making under uncertainty, where the applicability of figures required for the utility calculus are not available. Economic theory is based on the assumptions of a single goal whereas decision theory breaks new grounds by recognizing multiplicity of goals and persuasiveness of uncertainty in the real world of management.

#### **6. Managerial Economics and Economics**

Managerial economics has been described as economics applied to decision-making. Managerial economics has been studied as a special branch of economics, bridging the gap between pure economic theory and managerial practice. Economics has two main branches – microeconomics and macro-economics.

## UNIT II

### DEMAND AND UTILITY ANALYSIS

#### DEMAND DEFINITION:

Demand is a principle of economics that captures the consumer's desire to buy the product or service. The demand is calculated as the price the consumers are willing to pay for the product or service.

**MEANING OF DEMAND:** If we keep all other factors constant, the demand should go up as the prices go down, and the demand should go down as the prices go up.

This simple principle keeps the market in equilibrium. Market and aggregate demand are used to understand the demand for goods and services.

#### NATURE OF DEMAND

- Demand is the consumer's desire to purchase a particular good or service.
- Market demand is the demand for a particular good in the market.
- Aggregate demand is the total demand for goods and services in the economy.
- Demand and supply match determines the price of the good or service.
- Understanding the concept of demand.

Companies often want to find the demand for their products or services. Various companies do surveys to understand the demand. Demand at particular price points helps companies price their products or services. Demand is an incomplete concept without supply.

Consumers want to pay the least amount for the products or services. The suppliers, on the other hand, want to maximize the return. Thus, the point of intersection of the demand and supply determines the price of the product or service.

**Factors responsible for demand:** Various factors can affect the demand for a particular good or service. Some important demand factors are:-

- The appeal of the product or service to the buyer.
- Availability of competing products or services.
- Financing rate of interest and availability.
- Availability and also the perceived availability of the good or service. Thus, the demand for the products or services is based on these factors.

Demand is an economic concept that relates to a consumer's desire to purchase goods and services and willingness to pay a specific price for them. An increase in the price of a good or service tends to decrease the quantity demanded. Likewise, a decrease in the price of a good or service will increase the quantity demanded.

**Quantity Demanded** —Amount consumer is willing and able to buy at each particular price during given time period.

#### **TYPES OF DEMAND:**

Demand can be of the following types:

1. Market demand



2. Individual demand
3. Cross demand
4. Price demand
5. Income demand
6. Composite demand
7. Joint demand
8. Direct and derived demand

**1. MARKET DEMAND:** Market demand describes the demand for a given product and who wants to purchase it. This is determined by how willing consumers are to spend a certain price on a particular good or service. As market demand increases, so does price.

**2.INDIVIDUAL DEMAND:** Individual demand is the demand for a good or a service by a single consumer at a particular cost and at a specific point in time. Individual demand is driven by desires and quantities that an individual can afford.

**3.CROSS DEMAND:** Cross demand from the economic point of view measures the responsiveness of the change in quantity demand towards the change in price of another commodity.

**4.PRICE DEMAND:** Price demand relates to the amount a consumer is willing to spend on a product at a given price. Businesses use this information to determine at what price point a new product should enter the market. Consumers will buy items based on their perception of that product's value.

**5.INCOME DEMAND:** Income demand is the functional demand for a commodity and level of income, it shows how much quantity of a commodity a consumer will buy at different levels of income.

**6.COMPOSITE DEMAND:** Composite demand implies the demand of a product which have multiple uses. It may be as a final product or as raw material in making of a product. For instance, wood is required for construction, the manufacture of furniture, and paper, amongst a significant number of other applications.

**7.JOINT DEMAND:** Joint demand is the combined demand of two or more interlinked goods. Thus, the demand for one product affects the demand for other interlinked products. It is also referred to as complementary demand; the products that exhibit joint demand are called complementary goods.

**8.DIRECT AND DERIVED DEMAND:** Direct demand is the demand for a final product or service and is not affected by the demand for other products or services; on the other hand, derived demand is the demand for a product or service based on the demand for another product or service.

**DEMAND FUNCTION:** *A demand function is a mathematical function describing the relationship between a variable, like the demand of quantity, and various factors determining the*

*demand. The purpose of this function is to analyze the behavior of consumers in a market and to help firms make pricing decisions.*

It is basically of two types – individual function of demand and market function of demand.

### *1. Individual Demand Function:*

The Individual function of demand means the functional relationship between a particular need for a product and all the factors that affect it. Moreover, it also explains the relationship between the market's direction and its aspects. In addition, companies can calculate this function by using data on consumer buying behavior, such as surveys, market research, or sales data. Therefore, this function is derived from individual consumers' preferences, income, and other characteristics of individual consumers. Consequently, it helps understand consumer behavior in response to changes in price.

Algebraically, the individual function of demand is described as follows:

$$D_x = f(P_x, I, P_r, E, T)$$

- The Demand of Commodity x ( $D_x$ )
- The function of product x ( $f$ )
- Price of good or service ( $P_x$ )
- Incomes of buyers ( $I$ )
- Prices of related goods & services ( $P_r$ )
- The future expectation of the product ( $E$ )
- Taste patterns of buyers ( $T$ )

### **2 .Market Demand Function:**

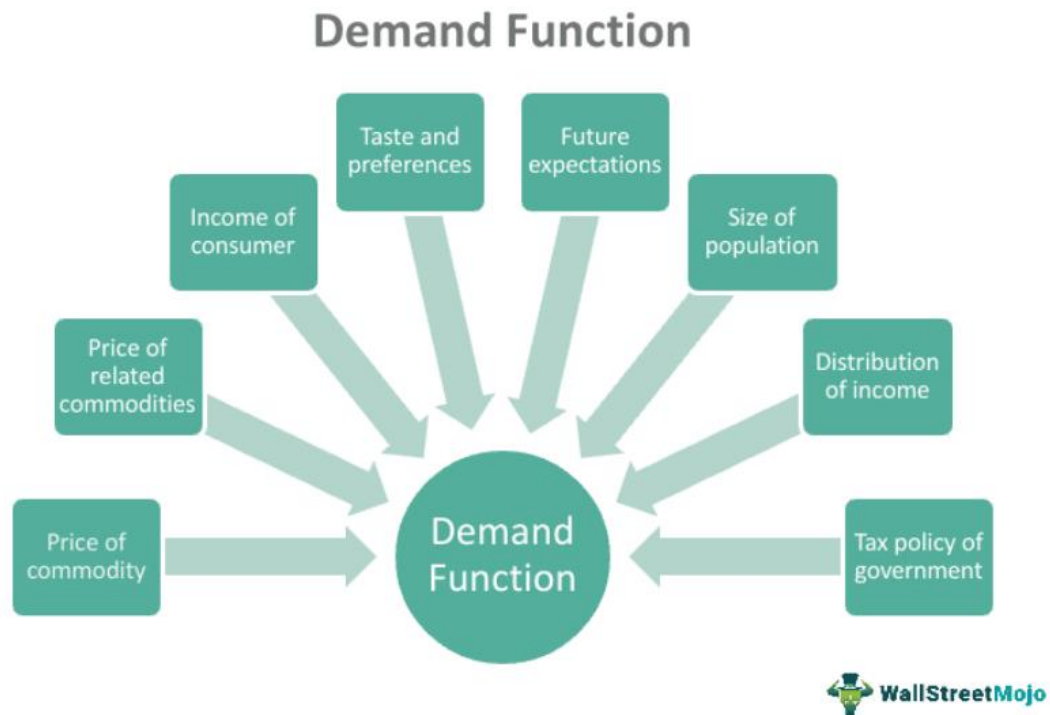
The market function of demand means the existing functional relationship between the need of the market and the factors affecting the market demand. Besides those factors affecting the individual demand process, the magnitude, and structure of climatic conditions and income distribution also affect the demand's market function.

Algebraically, the market function of demand is described as follows:

$$D_x = f(P_x, Y, P_y, E_p, T, P_p, A, U)$$

- The demand of Commodity x ( $D_x$ )
- The function of commodity x ( $f$ )
- Price of good or service ( $P_x$ )
- Incomes of buyers ( $Y$ )
- Prices of related goods & services ( $P_y$ )
- The Expected future price of the product ( $E_p$ )
- Taste patterns of users ( $T$ )
- Number of buyers in the market ( $P_p$ )
- Distribution of Income ( $A$ )

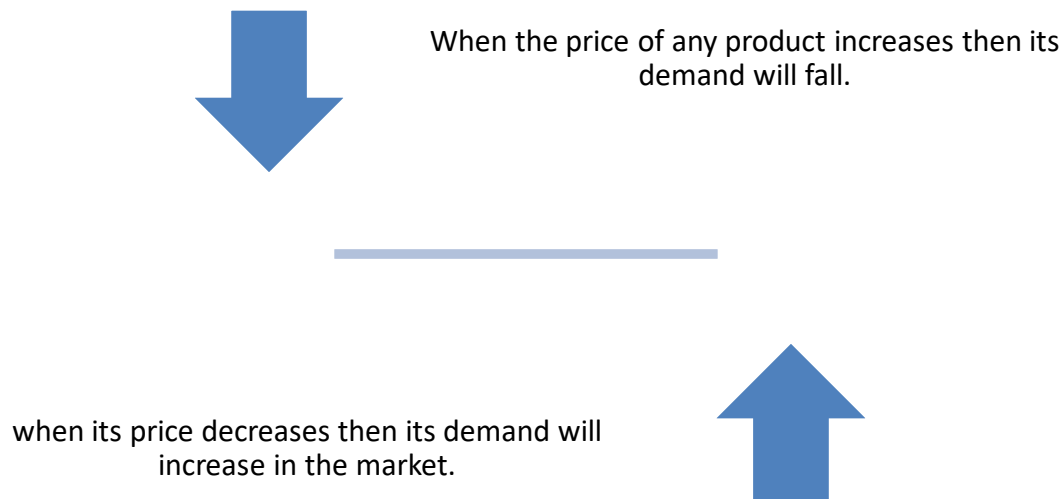
- Government Policy (U)



### **LAW OF DEMAND:**

The law of demand is one of the most fundamental concepts in economics. It works with the law of supply to explain how market economies allocate resources and determine the prices of goods and services that we observe in everyday transactions.

- Demand is derived from the law of diminishing marginal utility, the fact that consumers use economic goods to satisfy their most urgent needs first.
- A market demand curve expresses the sum of quantity demanded at each price across all consumers in the market.
- Changes in price can be reflected in movement along a demand curve, but by themselves, they do not increase or decrease demand.
- The shape and magnitude of demand shifts in response to changes in consumer preferences, incomes, or related economic goods, NOT to changes in price.



### **Assumptions of Law of Demand:**

The assumptions on which the Law of Demand is based are as follows:

1. The price of substitute goods does not change.
2. The price of complementary goods also remains constant.
3. The income of the consumer does not change.
4. Tastes and preferences of the consumers remain the same.
5. People do not expect the future price of the commodity to change.

Let's take an example to understand the concept of the Law of Demand better.

### **Limitations/Exceptions of law of demand**

#### **Inferior goods/ Giffen goods:**

Some special varieties of inferior goods are termed as giffen goods. Cheaper varieties of goods like low priced rice, low priced bread, etc. are some examples of Giffen goods.

This exception was pointed out by Robert Giffen who observed that when the price of bread increased, the low paid British workers purchased lesser quantity of bread, which is against the law of demand. Thus, in case of Giffen goods, there is indirect relationship between price and quantity demanded.

#### **Goods having prestige value:**

This exception is associated with the name of the economist, T. Veblen and his doctrine of conspicuous consumption. Few goods like diamond can be purchased only by rich people. The prices of these goods are so high that they are beyond the capacity of common people. The higher the price of the diamond the higher the prestige value of it.

In this case, a consumer will buy less of the diamonds at a low price because with the fall in price, its prestige value goes down. On the other hand, when price of diamonds increase, the prestige value goes up and therefore, the quantity demanded of it will increase.

### **Price expectation:**

When the consumer expects that the price of the commodity is going to fall in the near future, they do not buy more even if the price is lower. On the other hand, when they expect further rise in price of the commodity, they will buy more even if the price is higher. Both of these conditions are against the law of demand

### **Fear of shortage:**

When people feel that a commodity is going to be scarce in the near future, they buy more of it even if there is a current rise in price.

For example: If the people feel that there will be shortage of L.P.G. gas in the near future, they will buy more of it, even if the price is high.

### **Change in income:**

The demand for goods and services is also affected by change in income of the consumers. If the consumers' income increases, they will demand more goods or services even at a higher price. On the other hand, they will demand less quantity of goods or services even at lower price if there is decrease in their income. It is against the law of demand.

### **Change in fashion:**

The law of demand is not applicable when the goods are considered to be out of fashion.

If the commodity goes out of fashion, people do not buy more even if the price falls. For example: People do not purchase old fashioned shirts and pants nowadays even though they've become cheap. Similarly, people buy fashionable goods in spite of price rise.

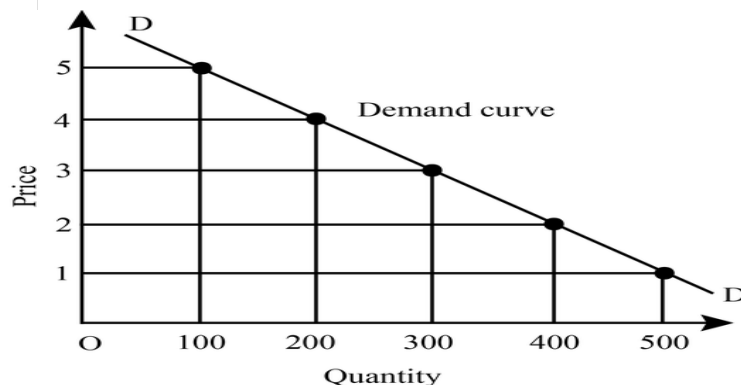
### **Basic necessities of life:**

In case of basic necessities of life such as salt, rice, medicine, etc. the law of demand is not applicable as the demand for such necessary goods does not change with the rise or fall in price.

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Price	Quantity Demanded
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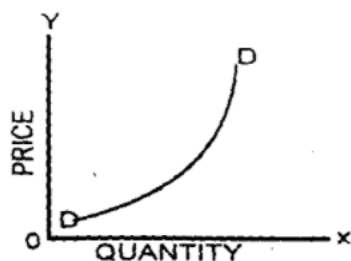
Demand Schedule	
Px	Dx
5	100
4	200
3	300
2	400
1	500



The above table clearly shows that as the price of the commodity decreases, its quantity demanded increases. Also, the demand curve DD is sloping downwards from left to right, which means that there is an inverse relationship between the price and quantity demanded of the commodity.

### EXCEPTIONAL DEMAND CURVE:

From the definition of demand, the normal demand curve slopes downward from left to right i.e. obeying the law of demand. But exceptional demand curve takes the opposite direction. It is a situation where less quantity of goods will be demanded even when there is a fall in price and, more quantity of goods demanded at even a higher price.



These conditions or situations may be found in the following commodities:

### Articles of ostentation

This is a situation where? the high price of goods is taken by consumers as being an indication for high quality. And when the prices of such goods or products are low, they (consumers) consider the products as being inferior. An example can be taken in luxury materials and the common wrapper. Also, a consumer may demand for goods at a higher price to show his status quo i.e. v-boat cars. Mercedes Benz which are now en-vogue.

## **Commodities whose price are expected to rise**

This is a situation whereby consumers anticipate that the price of a commodity is likely to rise in future than at present. In view of this, goods are bought even if the price of such commodities is high. The situation is apparent in the stock exchange speculation where a rise in the price of shares is a signal to further rise in price.

## **Inferior goods**

These are referred to as cheap and basic goods of necessity. Eg, food stuffs like cassava (akpu), garri, beans and rice. A fall in the prices still does not guarantee a high demand, even as the demand for the goods falls, the price of the goods still goes down more.

## **Expectation of further fall in prices**

This situation arises when consumers expect a further fall in the price of a commodity and as such commodities are demanded even at a lower price.

## **ELASTICITY OF DEMAND:**

Elasticity of demand refers to the shift in demand for an item or service when a change occurs in one of the variables that buyers consider as part of their purchase decisions. It's a relationship between demand and another variable, such as price, availability of substitutes, advertising pressure and customer income.

- Elasticity of demand describes the potential for variation in demand for a product or service arising from changes in price, customer income, advertising and other related factors.
- Many factors influence elasticity, such as price, availability of substitutes, necessity, brand loyalty and urgency.
- Understanding elasticity of demand can help guide a business's marketing and selling strategies to maximize profitability.
- Executing tactics to influence demand requires keen market insight and robust data for analysis.
  - Price elasticity of demand is a measurement of the change in the consumption of a product in relation to a change in its price. Expressed mathematically, it is:  
$$Ed = \frac{\text{proportionate change in demand}}{\text{Proportionate change in determining variables in demand}}$$

The variables on which demand can depend on are:

- Price elasticity of demand
- Income elasticity of demand
- Cross elasticity of demand

## ➤ Measurement of Price Elasticity

Price elasticity of demand measures the relationship between the proportionate change in demand and the proportionate change in price.

In other words, it shows how much change in price will cause how much change in demand. The formula to calculate the price elasticity of demand is:

$$EP = \frac{\text{Proportionate change in Demand}}{\text{Proportionate change in Price}}$$

$$= \frac{dq}{dp} \times \frac{p}{q}$$

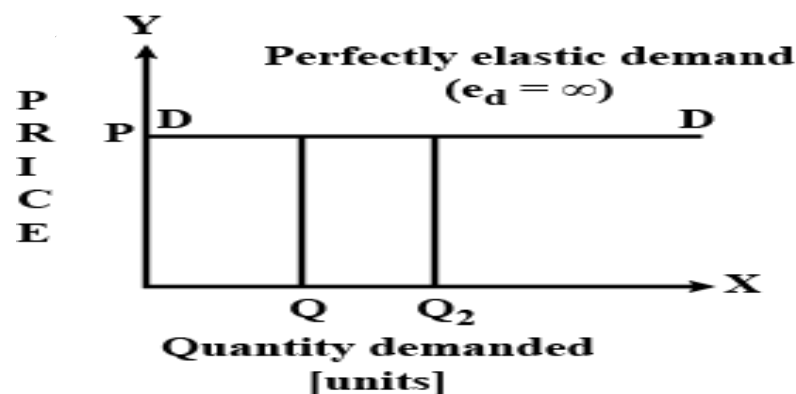
### Types of Price Elasticity of Demand

- Perfectly elastic demand
- Perfectly inelastic demand
- Relatively elastic demand
- Relatively inelastic demand
- Unitary elastic demand

#### 1. Perfectly elastic demand

Perfectly elastic demand is when the price is constant but there is a change in the demand i.e. increase or decrease of a commodity. Thus, the demand curve is parallel to the X-axis.

Here,  $E_P = \infty$



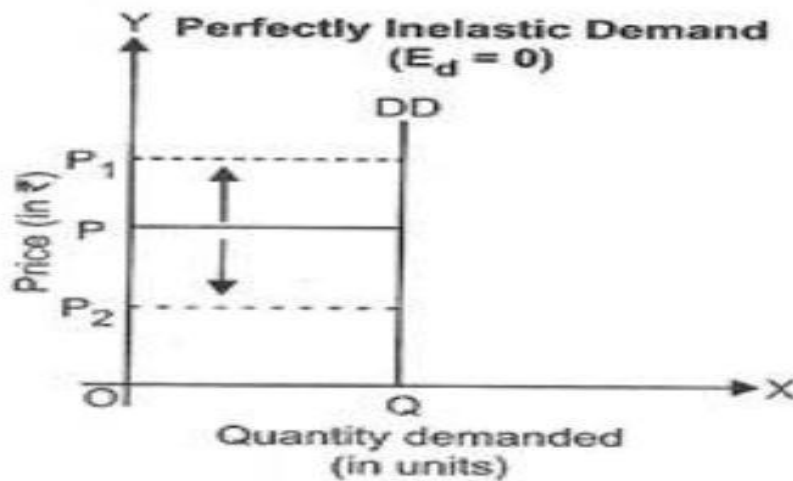


## 2. Perfectly inelastic demand

Perfectly inelastic demand is when the demand is constant or there is no change in the demand of a commodity even if the price changes i.e. increases or decreases.

Thus, the demand curve is parallel to the Y-axis. Demand for salt is an example of perfectly inelastic demand.

Here,  $E_P = 0$

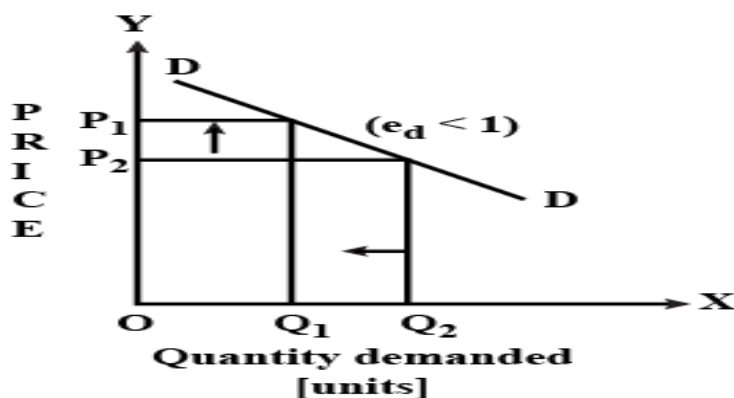


## 3. Relatively elastic demand

Relatively elastic demand is when the proportionate change in demand is more than the proportionate change in the price.

In other words, this means that a little change in the price shall cause more change in demand. Thus, the demand curve slopes downward from left to right. An example of this is luxury goods.

Here,  $E_P > 1$

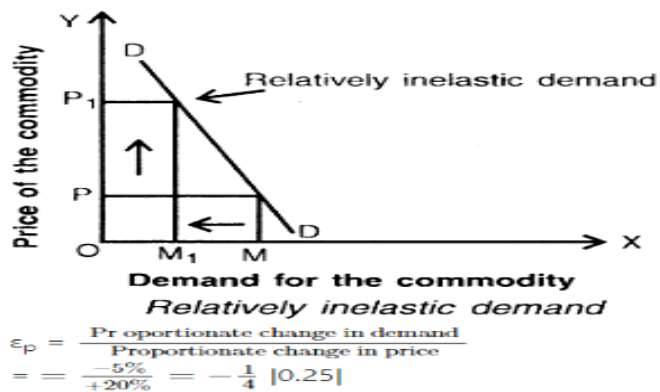


#### 4. Relatively inelastic demand

Relatively inelastic demand is when the proportionate change in demand is less than the proportionate change in the price.

In other words, this means that more change in price shall cause less change in demand. Thus, the demand curve slopes downward from left to right but is steeper. An example of this is the necessary goods.

Here,  $E_P < 1$



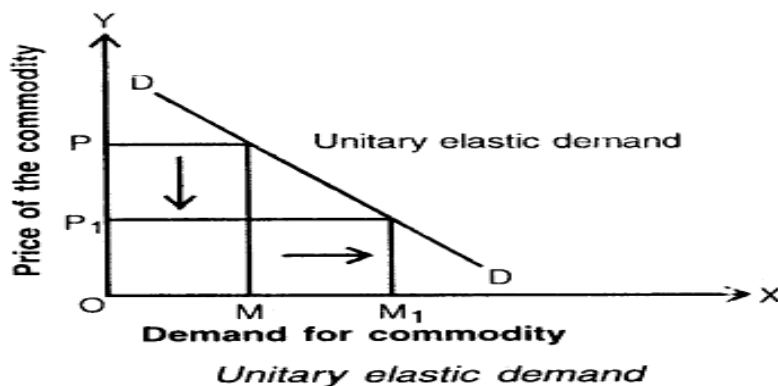
#### 5. Unitary elastic demand

Unitary elastic demand is when the proportionate change in demand is equal to the proportionate change in price.

In other words, it means that the change in demand is the same as the change in price it may increase or decrease.

Thus, the demand curve slopes downward from left to right but it is a rectangular hyperbola. An example of this is comfort goods.

Here,  $E_P = 1$



## ➤ INCOME ELASTICITY OF DEMAND

Income elasticity of demand refers to the sensitivity of the quantity demanded for a certain good to a change in the real income of consumers who buy this good.

### Income Elasticity of Demand Measurement

The following formula is used:

$$\text{Income Elasticity of Demand} = \% \text{ Change in Demand Quantity} / \% \text{ Change in Income of Consumer}$$

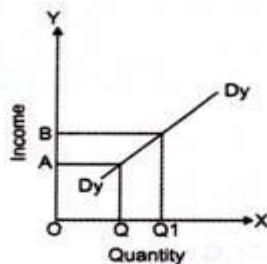
Where:

- **% Change in Demand Quantity** = Change in Demand Quantity / Original Demand Quantity
- **% Change in Income of Consumer** = Change in Income of Consumer / Original Income of Consumer

#### *1. Positive income elasticity of demand*

It refers to a condition in which demand for a commodity rises with a rise in consumer income and declines with a decline in consumer income. Commodities with positive income elasticity of demand are normal goods.

$$EY > 0$$



**Figure-12: Positive Elasticity of Demand**

The upward slope implies that the rise in income contributes to a rise in demand and vice versa. There are three forms of positive income elasticity of demand stated as follows:

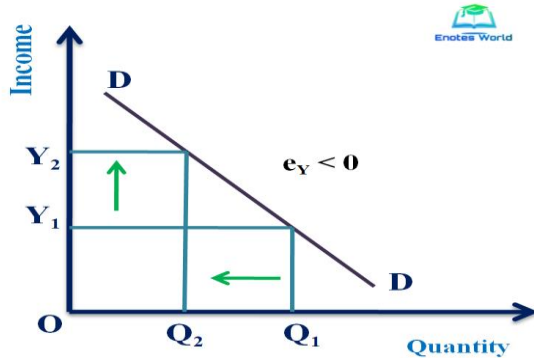
- **Unitary** – The positive income elasticity of demand will be unitary if the proportionate change in the amount of a product demanded equals the change in consumer income in due proportion.
- **More than unitary** – The positive income elasticity of demand will be more than unitary if the proportionate change in the amount of a product demanded is higher than the change in consumer income in due proportion.
- **Less than unitary** – If the change in the amount of a product demanded in due proportion is less than the change in consumer income in due proportion, positive income elasticity of demand will be less than unitary.

#### *2. Negative income elasticity of demand*

It refers to a condition in which demand for a commodity decreases with a rise in consumer income and increases with a fall in consumer income. Inferior goods are such commodities. For example, the demand

for millet will decrease if the income of consumers increases since they will prefer to purchase wheat instead of millet. Thus, millet is an inferior good to wheat for customers.

$$EY < 0$$



The downward slope implies that the increase in income contributes to a fall in demand, and a decrease in income causes a rise in demand.

### 3. Zero income elasticity of demand

It corresponds to the situation when there is no impact of rising household income on commodity production. Such goods are termed essential goods. For example, a high-income consumer and a low-income consumer will need salt in the same quantity.

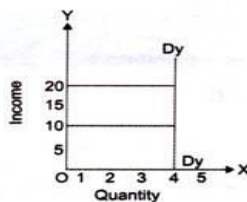


Figure-14: Zero Income Elasticity of Demand  $EY=0$

### ➤ CROSS ELASTICITY OF DEMAND:

In economics, the **cross (or cross-price) elasticity of demand** measures the effect of changes in the price of one good on the quantity demanded of another good. This reflects the fact that the quantity demanded of good is dependent on not only its own price (price elasticity of demand) but also the price of other "related" good.

The cross elasticity of demand is calculated as the ratio between the percentage change of the quantity demanded for a good and the percentage change in the price of another good, ceteris paribus:

$$\text{Cross elasticity of demand} = \frac{\% \text{ change in quantity demanded of good A}}{\% \text{ change in price of good B}}$$

The sign of the cross elasticity indicates the relationship between two goods. A negative cross elasticity denotes two products that are **complements**, while a positive cross elasticity denotes two products are **substitutes**

### 1 – Substitute products

If both goods that are perfect substitutes for each other result in perfect competition, then an increase in the price of one good will lead to a rise in demand for the rival product. For example, various brands of cereal are examples of substitute goods. It is to be noted that the cross-price elasticity for two substitutes will be positive.

### 2 – Complementary products

If one good is complementary to the other good, a goodwill price decreases and increases the complementary good's demand. The stronger the relationship between the two products, the higher the coefficient of cross-price elasticity of the demand will be. For example, game consoles and software games are examples of complementary goods Complementary Goods. It is to be noted that the cross elasticity will be negative for complementary goods.

### 3 – Unrelated products

If there is no relationship between the goods, then an increase in the price of one good will not affect the demand for the other product. As such, unrelated products have a zero cross elasticity. For example, the effect of changes in taxi fares on the market demand for milk.

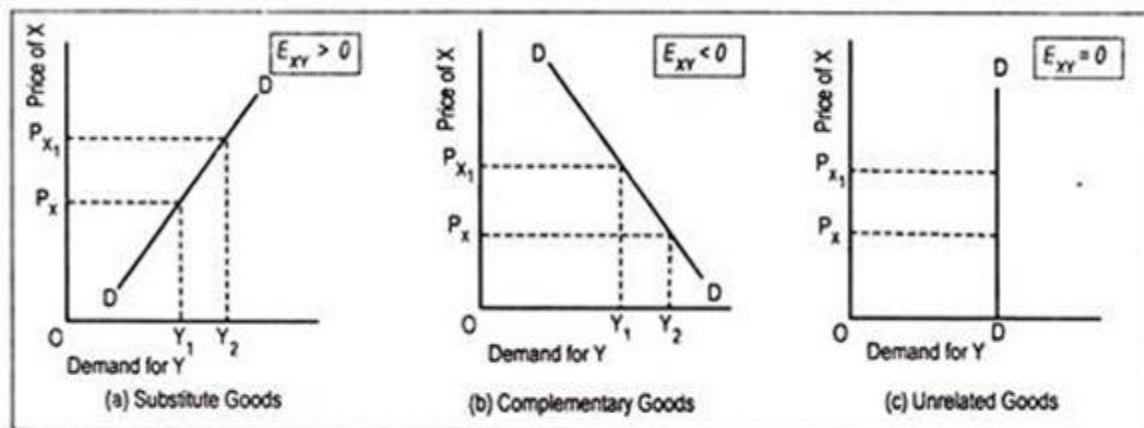


Fig. 2.57: Different Values of Cross Elasticity of Demand



## **ADVERTISING ELASTICITY OF DEMAND:**

Advertising Elasticity of Demand (or simply Advertising Elasticity, often shortened to AED) is an elasticity measuring the effect of an increase or decrease in advertising on a market. Traditionally, it is considered as being positively related, demand for the good that is subject of the advertising campaign can be inversely related to the amount spent if the advertising is negative.

Good advertising will result in a positive shift in demand for a good. AED is used to measure the effectiveness of this strategy in increasing demand versus its cost. Mathematically, then, AED measures the percentage change in the quantity of a good demanded induced by a given percentage often change in spending on advertising in that sector:

$$AED = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in spending on advertising}} = \frac{\Delta Q_d / Q_d}{\Delta A / A}$$

In other words, the percentage by which sales will increase after a 1% increase in advertising expenditure, assuming all other factors remain equal. AED is usually positive. Negative advertising may, however, result in a negative AED.

## **The Importance of Elasticity of Demand**

### **1. International trade:**

In order to fix prices of the goods to be exported, it is important to have knowledge about the elasticity's of demand for such goods.

A country may fix higher prices for the products with inelastic demand. However, if demand for such goods in the importing country is elastic, then the exporting country will have to fix lower prices.

## ***2. Formulation of Government Policies:***

The concept of price elasticity of demand is important for formulating government policies, especially the taxation policy. Government can impose higher taxes on goods with inelastic demand, whereas, low rates of taxes are imposed on commodities with elastic demand.

## ***3. Factor Pricing:***

Price elasticity of demand helps in determining price to be paid to the factors of production. Share of each factor in the national product is determined in proportion to its demand in the productive activity. If demand for a particular factor is inelastic as compared to the other factors, then it will attract more rewards.

## ***4. Decisions of Monopolist:***

A monopolist considers the nature of demand while fixing price of his product. If demand for the product is elastic, then he will fix low price. However, if demand is inelastic, then he is in a position to fix a high price.

## ***5. Paradox of poverty amidst plenty:***

A bumper crop, instead of bringing prosperity to farmers, brings poverty. This is called the paradox of poverty amidst plenty. It happens due to inelastic demand for most of the agricultural products. When supply of crops increases as a result of rich harvest, their prices drastically fall due to inelastic demand. As a result, their total income goes down.

## **The Importance of Income Elasticity in Decision Making:**

Income elasticity measures the relationship between sales and consumers' incomes, according to business expert, Graeme Pietersz, at Moneyterms.co.uk. Small-business sales are likely to fall when consumers' incomes fall. This can be highly evident during economic recessionary periods. People have less disposable income during recessions. Some may not have jobs at all. Hence, companies need to center their marketing strategies and decision making around the statuses of consumers' incomes.

### **1.Types of Products**

Certain types of products are more affected by income elasticity. Consumers usually take care of their basic needs when income elasticity is high. For example, people need food, water, shelter and personal-care items. However, consumers often cut back on luxury items when their incomes are limited. Consequently, marketers of sports cars, vacations and computers may need to offer extra incentives to spur sales, including discounts, long-term payments or

"no money down" deals. Food companies and restaurants are not exempt from income elasticity. Small food companies may need to lower prices to compete with generic brands, items consumers often buy during tough economic periods. When a company's production costs get too high, it may also cut portions or sizes of their brands.

## **2.Types of Customers**

A strategy for a small companies is to focus marketing efforts on higher-income consumers when consumer income elasticity is high. These individuals may be less sensitive to price changes. Marketers may also target certain types of consumers known for being the first to buy new products.

## **3.Product Life Cycle**

Income elasticity also comes into play with product life-cycle management. Overall demand for products are usually higher during their introduction and growth stages. The challenge comes as a product ages and more substitutes become available. This usually happens in the maturity or decline stages of the product life cycle. A small company may need to diversify its product line to attract consumers with less disposable income.

## **4.Determining Income Elasticity**

An easy way to determine income elasticity is through marketing research surveys. Companies may divide users up into different income groups, then determine how their incomes impact their purchases. The surveyor could list certain types of products and determine price ranges for which people are willing to pay. Business owners could then use the information to determine the price ranges for their entire product line.

## **Factors That Affect the Price Elasticity of Demand:**

### ***1. Availability of close substitutes***

If consumers can substitute the good for other readily available goods that consumers regard as similar, then the price elasticity of demand would be considered to be elastic. If consumers are unable to substitute a good, the good would experience inelastic demand.

### ***2. If the good is a necessity or a luxury***

The price elasticity of demand is lower if the good is something the consumer needs, such as Insulin. The price elasticity of demand tends to be higher if it is a luxury good.

### ***3. The proportion of income spent on the good***

The price elasticity of demand tends to be low when spending on a good is a small proportion of their available income. Therefore, a change in the price of a good exerts a very little impact on the consumer's propensity to consume the good. Whereas, when a good represents a large chunk of the consumer's income, the consumer is said to possess a more elastic demand.

### ***4. Time elapsed since a change in price***

In the long term, consumers are more elastic over longer periods, as over the long term after a price increase of a good, they will find acceptable and less costly substitutes.



## **UTILITY ANALYSIS:**

In economics, utility is a term used to determine the worth or value of a good or service. More specifically, utility is the total satisfaction or benefit derived from consuming a good or service. Economic theories based on rational choice usually assume that consumers will strive to maximize their utility.

- Utility, in economics, refers to the usefulness or enjoyment a consumer can get from a service or good.
- Although the concept of utility is abstract, it is a useful way to explain how and why consumers make their decisions.
- "Ordinal" utility refers to the concept of one good being more useful or desirable than another.
- "Cardinal" utility is the idea of measuring economic value through imaginary units, known as "utils."
- Marginal utility is the utility gained by consuming an additional unit of a service or good.

As regards the measurement of utility there are 2 different approaches.

### **Ordinal Utility:**

Early economists of the Spanish Scholastic tradition of the 1300s and 1400s described the economic value of goods as deriving directly from this property of usefulness and based their theories on prices and monetary exchanges.

The concept of ordinal utility states that the level of satisfaction a consumer obtains after consuming various commodities cannot be measured in numbers but can be arranged in the order of preference.

#### **In ordinal utility:**

The consumer only ranks choices in terms of preference but we do not give exact numerical figures for utility. For example, we prefer a BMW car to a Nissan car, but we don't say by how much. It is argued this is more relevant in the real world.

## **TYPES OF ECONOMIC UTILITIES**

Economic utility can be defined as the total amount of satisfaction that someone experiences when they consume a particular product or service. It helps measure how much fulfillment someone requires in order to satisfy a particular need or want.

There are four types of economic utility, which include form, time, place, and possession. Companies that can understand and recognize areas that are lacking in their marketing schemes can assess consumer purchase decisions and pinpoint the drivers behind those decisions, thus boosting their sales and profits.

- Economic utility is the total amount of satisfaction experienced when a product or service is consumed.
- Form utility is the value a consumer derives from products or services in a way they actually need.

- When a company provides goods or services to consumers when they demand or need them, it is referred to as time utility.
- Place utility involves making products or services available in locations that allow consumers to easily access them.
- Possession utility is the use or perceived value a consumer gets from owning and being able to use a product or service in a timely manner.

### **Form Utility**

Form utility refers to how much value a consumer receives from a product or service in a way that they actually need. Form utility is, therefore, the incorporation of customer needs and wants into the features and benefits of the products being offered by the company.

For instance, a cosmetics company may conduct focus groups and testing to identify holes in the market related to different skin types and skin tones. The company may decide to produce and market new offerings to cater to and complement the needs of a more racially diverse clientele. The company can increase its sales while adding value to these new consumers.

### **Time Utility**

This type of utility occurs when a company provides goods and services when consumers demand or need them. Companies analyze how to create or maximize the time utility of their products and adjust their production process, logistical planning of manufacturing, and delivery. So when demand increases, the company should respond by producing and delivering more of the product to the market.

### **Place Utility**

Place utility refers to making goods or services available in locations that allow consumers to easily access products and services.

Making a product available in a wide variety of stores and locations is considered an added value since it is more convenient. Apple sells iPhones and laptops through its retail stores, but also offers its products through other electronics retailers, including Best Buy.

### **Possession Utility**

Possession utility is the amount of usefulness or perceived value a consumer derives from owning a specific product and being able to use it as soon as possible. The basic premise behind this utility is that consumers should be able to use a specific good or service as soon as they're able to purchase or obtain it.

That's why it's important for companies to increase the ease of ownership, which boosts the product's possession utility or perceived value. Consider lenders who offer favorable financing terms toward owning a car, appliance, or home. They would likely create possession utility for these products, leading to an increase in sales and, therefore, revenue.

## **What is an Ordinal Utility?**

Ordinal Utility states that the satisfaction a consumer gets after consuming a good or service cannot be scaled in numbers, whereas, these things can be arranged in the order of preference. Two English economists, John Hicks and R.J. Allen 1930 argued that the consumer behavior theory should be introduced based on Ordinal Utility. According to the ordinal approach, utility is a psychological phenomenon like happiness, satisfaction, and welfare. The ordinal theory is

highly subjective and differs across individuals. Therefore, it cannot be measured in quantifiable terms.

The utility according to this approach can be measured in relative terms such as less than and greater than. This approach states that consumer behavior can be explained in terms of preferences or rankings. For example, a consumer may prefer soft drinks over hard drinks. In such a case, the soft drink would have 1st rank, while 2nd rank would be given to hard drinks

Therefore, as per the Ordinal Utility approach, a consumer observes different pairs of two commodities which would provide him/her the same level of satisfaction. Among these pairs, he/she may prefer one commodity over the other based on how he/she ranks them in order of utility. This implies that utility can be ranked qualitatively rather than quantitatively.

## What is Cardinal Utility?

According to classical economists, utility is a quantitative concept that can be measured in terms of a number. Hence they introduced the concept of measuring utility using a cardinal approach. According to this concept, the utility can be expressed similarly to how weight and height are expressed. However, the economists lacked a precise unit for utility. Hence, they derived a psychological unit termed as 'Util'. Util is not regarded as a standard unit because it varies from person to person, place to place, and time to time. For example, if a person assigns 30 utils to a pizza and 20 utils to a chowmein, we can understand that the pizza has double the capacity to satisfy what humans want.

As util is not a standard unit for measuring utility, many economists, including Alfred Marshall suggested measurement of utility in terms of money that consumers are willing to pay for a commodity. If each rupee is equal to 1 util, a pizza worth Rs 30 has 30 utils and a chow min worth Rs 20 has 20 utils. Hence, the consumer who consumes burgers will yield utility of 30 utils and those who consume chow min will yield utility of 20 utils.

The supply and demand of a product decide its price. Moreover, a person's desire for a product depends on these three factors:

- Price of the item
- Income of a person
- The cost of other related items

Cardinal Utility	Ordinal Utility
<b>Definition</b>	
It explains that the satisfaction level after consuming any goods or services can be scaled in terms of	It explains that the satisfaction level after consuming any goods or services cannot be scaled in numbers. However, these things can

countable numbers.	be arranged in the order of preference.
<b>Example</b>	
Pizza gives Sam 60 utils of satisfaction, whereas burger gives him only 40 utils.	Sam gets more satisfaction from a pizza as compared to that of a burger.
<b>Measurement</b>	
Utility is measured based on utils.	Utility is ranked based on satisfaction.
<b>Realistic</b>	
It is less practical.	It is more practical and sensible.

## What Is Marginal Utility?

Marginal utility is the added satisfaction that a consumer gets from having one more unit of a good or service. The concept of marginal utility is used by economists to determine how much of an item consumers are willing to purchase.

Positive marginal utility occurs when the consumption of an additional item increases the total utility. On the other hand, negative marginal utility occurs when the consumption of one more unit decreases the overall utility.

### Types of Marginal Utility

There are multiple kinds of marginal utility. Three of the most common ones are as follows:

#### **Positive Marginal Utility**

Positive marginal utility occurs when having more of an item brings additional happiness. Suppose you like eating a slice of cake, but a second slice would bring you some extra joy. Then, your marginal utility from consuming cake is positive.

#### **Zero Marginal Utility**

Zero marginal utility is what happens when consuming more of an item brings no extra measure of satisfaction. For example, you might feel fairly full after two slices of cake and wouldn't really feel any better after having a third slice. In this case, your marginal utility from eating cake is zero.

## Negative Marginal Utility

Negative marginal utility is where you have too much of an item, so consuming more is actually harmful. For instance, the fourth slice of cake might even make you sick after eating three pieces of cake.

## What is Total Utility?

Total utility is the overall satisfaction that a consumer derives from the consumption of particular goods and services. Each individual unit of goods or services has a marginal utility of their own.

Total utility is the sum of marginal utilities of all such individual items.

The primary concern of a customer is to derive the largest amount of utility with the least cost incurred.

To understand total utility, we must look into the concept of the law of diminishing marginal utility. It states that as more units of a single good or service are consumed, the additional satisfaction called the marginal satisfaction drops. The first good consumed provides the highest marginal utility, the second one a little lesser, and so on.

The following table will help students understand the significant points of difference between total utility and marginal utility.

Total utility	Marginal utility
<b>What does it mean?</b>	
It is the aggregate of satisfaction that a consumer derives from the consumption of any particular goods or services.	It is the amount of satisfaction derived by a consumer by additional consumption of a unit of any particular goods or services.
<b>Rate of increase</b>	
Total utility rises as more consumption is done.	Marginal utility diminishes with an increase in total utility.
<b>Result</b>	
It suffers from diminishing returns.	Marginal utility reduces with the consumption of each additional unit.

## The law of Diminishing Marginal Utility and its Limitations.

The law of diminishing marginal utility states that all else equal, as consumption increases, the marginal utility derived from each additional unit declines. Marginal utility is the incremental

increase in utility that results from the consumption of one additional unit. "Utility" is an economic term used to represent satisfaction or happiness.

In simple terms, the law of diminishing marginal utility means that the more of an item that you use or consume, the less satisfaction you get from each additional unit consumed or used.

### **Examples of the Law of Diminishing Marginal Utility**

Imagine you can purchase a slice of pizza for \$2. You're very hungry, so you decide to buy five slices of pizza. When you eat the first slice of pizza, you gain a certain amount of positive utility from eating. Because you were hungry and this is the first food you are eating, the first slice of pizza has a high benefit.

After you eat the second slice of pizza, your appetite is becoming satisfied. You're not as hungry as before, so the second slice of pizza had a smaller benefit and enjoyment than the first. The third slice holds even less utility since you're only a little hungry at this point.

The fourth slice of pizza has experienced a diminished marginal utility as well. It might be difficult to eat because you're already full from the first three slices. Finally, you can't even eat the fifth slice of pizza. You're so full from the first four slices that consuming the last slice of pizza results in negative utility.

The law of diminishing marginal utility makes several assumptions:

- The goods being consumed are identical.
- The units are consumed quickly with few breaks in between.
- Units are not too big or too small.
- The consumer's taste is constant.
- There is no change in the price of the goods or of their substitutes.
- The unit can be measured.
- The consumer is making rational decisions about consumption.

### **Limitations of the Law of Diminishing Marginal Utility**

There are certain limitations to the law. It is based on certain assumptions as follows.

- **Homogeneous Units:** The different units of products and the attributes of the consumer like temperament, taste, income, etc. are identical at all times.
- **Standard Consumption Units:** The consumption units are considered to be standard units. For example, the unit for water consumption will always be a glass.
- **Continuous Consumption:** The consumers continuously consume the units of the product without any gap in between. The Law cannot be applied to
- **Prestigious Goods:** The law does not take prestigious goods into consideration since the increase in stock increases the demands.
- **Related Goods:** The utility of any product is related to the presence or absence of a related product. For example, your tea consumption can be less in the absence of sugar.

## Unit 3

### Theory of production and cost analysis

#### Meaning of production:

Production is the process of making or manufacturing goods and products from raw materials or components. In other words, production takes inputs and uses them to create an output which is fit for consumption – a good or product which has value to an end-user or customer.

In simple words, the definition of **production** is the process in which various inputs, such as land, labor, and capital, are used to produce the outputs in the form of products or services. Each company is diverse and has a particular production strategy, but all businesses strive to combine their inputs in a way that maximizes their profits.

Businesses must take into account several factors when deciding how much to produce to be profitable. Businesses must consider the cost of the inputs utilized in the production process.

#### Types of Production

Now that we know about production let's learn about the types of production. There are three types of production - primary production, secondary production, and tertiary production. Let's learn about each of them in more detail!

##### **Types of Production: Primary Production**

The stage of production where raw materials are produced for the industries is known as primary production. The materials produced in the process of primary production are later utilized by secondary industries in their production process.

Examples of primary production includes processes such as agriculture, mining, fishing, and others.

##### **Types of Production: Secondary Production**

Secondary production is the process in which raw materials are converted into finished goods.

The secondary industry-produced goods are further utilized by tertiary industries.

Examples of secondary production are manufacturing plants, construction companies, and others.

##### **Types of Production: Tertiary Production**

Tertiary production is the process in which industries involved sell the finished goods produced by secondary industries.

Examples of tertiary production are wholesalers and retailers, communication services, and others.

### **Meaning of Production Function**

The production function is a statement of the relationship between a firm's scarce resources (i.e. its inputs) and the output that results from the use of these resources.

Inputs include the factors of production, such as land, labour, capital, whereas physical output includes quantities of finished products produced. The long-run production function (Q) is usually expressed as follows:

$$Q = f(LB, L, K, M, T, t)$$

Where, LB= land and building

L = labour

K = capital

M = raw material

T = technology

t = time

**Production Function** is the relationship between physical inputs (land, labour, capital, etc.) and physical outputs (quantity produced). It is a technical relationship (not an economic relationship) that studies material inputs on one hand and material outputs on the other hand. Material inputs include variable and fixed factors of production.

In the words of **Watson**, "Production Function is the relationship between a firm's production (output) and the material factors of production (input)."

### **Assumptions of Production Function:**

- Both inputs and outputs are divisible.
- There are only two factors of production, i.e., land (Variable element) and capital (Fixed element).
- Factors of production are imperfect substitutes.
- Technology is constant.

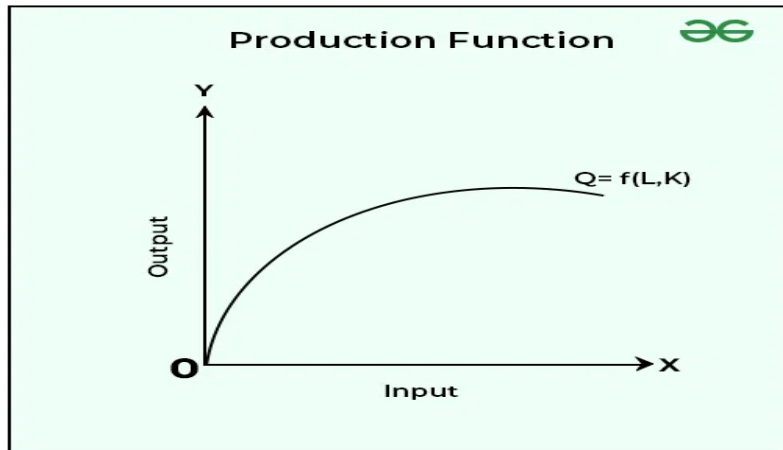
### **Algebraic and Graphical Representation of Production Function**

In a standard equation, the Production function is represented by Q, Labour (Variable element) is represented by L, and Capital (Fixed element) is represented by K.

$$Q = f(L, K)$$

**For example,** When there are 4 units of labour and 5 units of capital, the equation for the production function is  $Q = f(4, 5)$ .





In the above graph, X-axis represents inputs that are being used in the production process and Y-axis represents outputs that get produced. Q is the Production Function.

### **Use of production function in decision making**

A detailed study of cost analysis is very useful for managerial decisions. It helps the management

1. To find the most profitable rate of operation of the firm.
2. To determine the optimum quantity of output to be produced and supplied.
3. To determine in advance the cost of business operations.
4. To locate weak points in production management to minimize costs.
5. To fix the price of the product.
6. To decide what sales channel to use.
7. To have a clear understanding of alternative plans and the right costs involved in them.
8. To have clarity about the various cost concepts.

### **The managerial use of the production function may be summarized as follows:**

It may be used to compute the least-cost combination of inputs for a given output.

It may be used by the manager to obtain the most appropriate combination of input. Which yields the maximum level of output with a given level of cost.

Helps the managers in deciding the additional value of variable input employed in the production process.

Production functions help the managers in taking **long-run decisions**. As with increasing returns to scale the production may be increased through a proportionate increase in the factors of production.

### **COST ANALYSIS:**

Cost analysis, also known as cost-benefit analysis, is the process of calculating the potential earnings from a situation or project and subtracting the total cost associated with completing it. It predicts the profit gained from a project and compares the project's cost to its estimated financial benefits. Many finance professionals use cost analysis to show clients their potential profits from a project.

Cost analysis is an important tool when making decisions about any business venture. It can help you estimate the costs associated with any project or activity, and also helps you understand how much it will cost to accomplish a goal.

A cost analysis is the process of gathering, modeling, and evaluating data to make decisions about resource allocation. The purpose of a cost analysis is to understand the relationships between various cost elements and to identify opportunities for cost savings.

There are two main types of cost analysis: parametric and activity-based. Parametric cost analysis uses statistical models to analyze data and predict future costs. Activity-based cost analysis looks at the activities that make up a product or service and assigns costs to those activities.

Cost analysis can be used to make decisions about pricing, production, and other aspects of business. It can also be used to evaluate the financial viability of a project or venture.

### **The different types of cost analysis**

There are several types of cost analysis that can be performed on a potential or existing project. The most common types are:

- 1. Cost-benefit analysis:** This type of analysis compares the expected costs of a project with the expected benefits to determine whether the project is worth undertaking.
- 2. Cost-effectiveness analysis:** This type of analysis compares the expected costs and benefits of different options to determine which option is the most cost-effective.
- 3. Life cycle costing:** This type of analysis looks at all of the costs associated with a project over its entire life cycle, from planning and development through to operation and maintenance.
- 4. Activity-based costing:** This type of analysis assigns costs to specific activities or tasks within a project in order to better understand where money is being spent.
- 5. Target costing:** This type of analysis sets a target cost for a project and then works backwards to identify ways to achieve that cost.

### **How to calculate cost analysis**

In order to calculate cost analysis, you will need to first determine all of the costs associated with your product or service. This includes direct costs, indirect costs, and opportunity costs. Once you have determined all of the relevant costs, you will then need to allocate those costs across your various activities. The goal is to identify which activities are the most expensive and to find ways to reduce those costs.

## **The benefits of cost analysis**

Cost analysis is an important tool for businesses to understand where their money is going and to make informed decisions about how to reduce costs. There are many benefits of cost analysis, including the following:

- 1. Improved decision making** – Cost analysis can help businesses to identify areas where they are overspending and make informed decisions about where to cut costs.
- 2. Enhanced efficiency** – By understanding where money is being wasted, businesses can make changes to their processes and operations to become more efficient.
- 3. Reduced costs** – The ultimate goal of cost analysis is to reduce costs for the business, which can lead to increased profits.
- 4. Greater transparency** – Cost analysis can also help businesses to improve their internal communication and accountability by providing clear information on where money is being spent.

## **NATURE OF COST ANALYSIS:**

- There are accounting costs which an entrepreneur takes into account in making payments to the various factors of production.
- Explicit costs are the payments to outside suppliers of inputs.”
- Implicit costs are the imputed value of the entrepreneur’s own resources and services.
- According to Salvatore, “Implicit costs are the value of owned inputs used by the firm in its own production process.”

## **CLASSIFICATION OF COSTS:**

The idea of cost accounting is to collect, classify, record, and suitably allocate expenditures to determine the costs of products or services.

After collecting costs, these are classified to ensure their identification with cost centers or cost units.

Costs have different features or characteristics, and they are grouped or classified based on their common characteristics.

The process of grouping costs based on their common characteristics is known as the classification of cost.

## **Variable Costs**

Variable costs are any costs that a company incurs that are associated with the number of goods or services it produces. A company's variable costs increase and decrease with its production volume. When production volume goes up, the variable costs increase. But if the volume goes down, the variable costs follow suit. As noted above, examples of variable costs generally include:

- Labor
- Commissions
- Packaging
- Utility expenses
- Raw materials for production

Calculating variable costs can be done by multiplying the quantity of output by the variable cost per unit of output. Suppose ABC Company produces ceramic mugs for a cost of \$2 per mug. If the company produces 500 units, its variable cost will be \$1,000. However, if the company doesn't produce any units, it won't have any variable costs for producing the mugs. Similarly, if the company produces 1,000 units, the cost will rise to \$2,000.

### **Fixed Costs:**

Fixed costs remain the same regardless of whether goods or services are produced or not. Thus, a company cannot avoid fixed costs. As such, a company's fixed costs don't vary with the volume of production and are indirect, meaning they generally don't apply to the production process—unlike variable costs.

The most common examples of fixed costs include lease and rent payments, property tax, certain salaries, insurance, depreciation, and interest payments.

To demonstrate, let's use the same example from above. In this case, suppose Company ABC has a fixed cost of \$10,000 per month to rent the machine it uses to produce mugs. If the company does not produce any mugs for the month, it still needs to pay \$10,000 to rent the machine. But even if it produces one million mugs, its fixed cost remains the same. The variable costs change from zero to \$2 million in this example.

### **MARGINAL COST:**

In economics, the marginal cost is the change in total production cost that comes from making or producing one additional unit. To calculate marginal cost, divide the change in production costs by the change in quantity. The purpose of analyzing marginal cost is to determine at what point an organization can achieve economies of scale to optimize production and overall operations. If the marginal cost of producing one additional unit is lower than the per-unit price, the producer has the potential to gain a profit.

- Marginal cost is an important concept in managerial accounting, as it can help an organization optimize its production through economies of scale.
- A company can maximize its profits by producing to where marginal cost (MC) equals marginal revenue (MR).
- Fixed costs are constant regardless of production levels, so higher production leads to a lower fixed cost per unit as the total is allocated over more units.
- Variable costs change based on production levels, so producing more units will add more variable costs.

- Companies must be mindful of when increasing production necessitates results in step costs due to changes in relevant ranges (i.e. additional machinery or storage space needed).

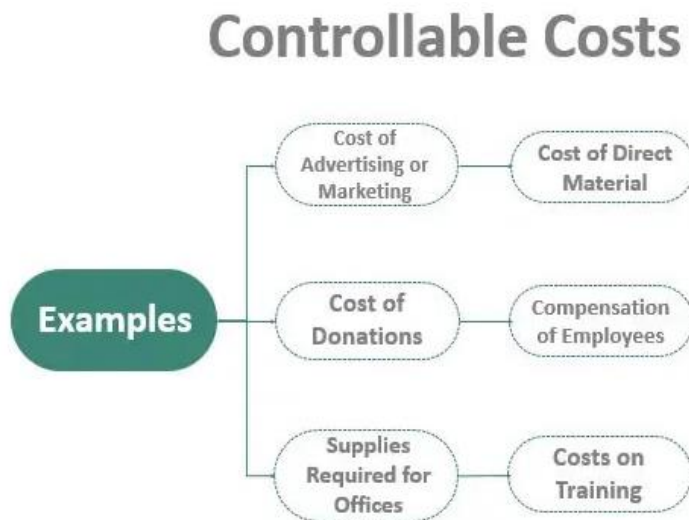
### **Marginal Cost Formula:**

Marginal cost is calculated as the total expenses required to manufacture one additional good. Therefore, it can be measured by changes to what expenses are incurred for any given additional unit.

Marginal Cost = Change in Total Expenses / Change in Quantity of Units Produced

### **Controllable costs:**

Controllable costs are those costs that can be altered in the short term. More specifically, a cost is considered to be controllable if the decision to incur it resides with one person. If the decision instead involves a number of individuals, then a cost is not controllable from the perspective of any one individual. Also, if a cost is imposed on an organization by a third party (such as taxes), this cost is not considered to be controllable. Examples of controllable costs are advertising, bonuses, direct materials, donations, dues and subscriptions, employee compensation, office supplies, and training.



### **Non controllable costs:**

On the other hand, uncontrollable costs are not in control of the management. They cannot be influenced by any action taken by managers or the firm. Say for example the rent of the factory.

This is an uncontrollable cost, as the management has no say or influence over it. In fact, most fixed costs and overheads are uncontrollable costs.

### **Opportunity cost:**

Opportunity cost represents the potential benefits that a business, an investor, or an individual consumer misses out on when choosing one alternative over another. While opportunity costs

can't be predicted with total certainty, taking them into consideration can lead to better decision making.

Examples of opportunity cost considerations include investing in a new manufacturing plant in Los Angeles as opposed to Mexico City, deciding to upgrade company equipment or hire additional workers, or buying stock A vs. stock B.

### **Formula for Calculating Opportunity Cost**

Opportunity Cost=FO–CO where:

FO=Return on best forgone option

CO=Return on chosen option

The formula for calculating an opportunity cost is simply the difference between the expected returns of each option. Consider a company that is faced with the following two mutually exclusive options:

**Option A: Invest excess capital in the stock market**

**Option B: Invest excess capital back into the business for new equipment to increase production**

### **Incremental costs:**

Incremental cost is the total cost incurred due to an additional unit of product being produced. Incremental cost is calculated by analyzing the additional expenses involved in the production process, such as raw materials, for one additional unit of production. Understanding incremental costs can help companies boost production efficiency and profitability.

- Incremental cost is the amount of money it would cost a company to make an additional unit of product.
- Companies can use incremental cost analysis to help determine the profitability of their business segments.
- A company can lose money if incremental cost exceeds incremental revenue.

Incremental costs might include the following:

- Raw materials such as inventory
- Utilities, such as the additional electricity needed to power the equipment
- Wages or direct labor that's only involved in production
- Shipping and packaging

### **Sunk costs:**

- Sunk costs are those which have already been incurred and which are unrecoverable.

- In business, sunk costs are typically not included in consideration when making future decisions, as they are seen as irrelevant to current and future budgetary concerns.
- Sunk costs are in contrast to relevant costs, which are future costs that have yet to be incurred.
- The sunk cost fallacy is a psychological barrier that ties people to unsuccessful endeavors simply because they've committed resources to it.
- Examples of sunk costs include salaries, insurance, rent, nonrefundable deposits, or repairs (as long as each of those items is not recoverable).

### **Explicit and implicit costs:**

**Explicit cost definition:** Explicit costs are the costs that involve an immediate outlay of cash from an organization (out-of-pocket costs for an organization).

This type of cost includes all charges paid to complete the production, such as the cost of land, labor, electricity, stationery, postage, etc. Basically, the explicit cost involves all the costs paid to outsiders while the business is carried on. Explicit cost is permanently recorded and reported, and it is very easy to do so, as these expenses are recorded when they arise.

The recording of explicit costs is critical because it aids in the calculation of profit and serves other purposes such as decision-making, cost control, reporting, and so on. Let's go through an example to understand the term "explicit cost" in a better way.

### **Explicit cost example:**

Ankit owns a business, and the table below shows the expenses that Ankit has to pay:

Amount to be paid for	Amount to be paid
Goods	5000
Office rent	1000
Employee salary	2000
Supplies	500
Insurance	800
Electricity bill	2000

Hence, the explicit cost here will be = Goods + Office rent + Employee salary + Supplies + Insurance + Electricity bill

i.e.,  $5000 + 1000 + 2000 + 500 + 800 + 2000 = 11,300$

Hence, the entire explicit costs amount to ₹11,300. (**Note:** Add all of your expenses together to get your total explicit cost.)

**Implicit cost definition:** Implicit costs are the cost of the opportunity that a company cannot use because it is not visible to the outside world.

In layman's terms, implicit costs are the cost of resources already owned by the firm that could have been put to some other use. For example, an owner of an organization could use his/her labor to earn income at a job. Implicit costs need not entail any cash outflow from the business.

Implicit costs are not recorded in the books of accounts, nor are they reported. The purpose of determining the implicit cost is to aid in decision-making regarding the replacement of any asset, among other things. Implicit costs are those expenses incurred on self-supplied factors for which no payment in cash or on credit is made. Let's go through an example to understand the term "implicit cost" in a better way.

#### **Implicit cost example:**

Ankit owns a business that he has newly started. Basically, it is a startup. Hence, to help with the expenses, Ankit has decided not to take his salary of ₹ 40,0000 annually for two years.

Hence, the implicit cost here will be  $400000 \times 2 = ₹800000$ .

If Ankit has taken his salary, this amount has been added to explicit costs.

#### **REPLACEMENT COSTS:**

Replacement costs are the cash outlay that the business has to pay to replace an old asset at the existing market price. The price charged to replace the old asset with the new one having the same value is the replacement cost.

Replacing an asset can be a costly decision, and companies are analysing the net present value (NPV) of future cash inflows and outflows to make buying decisions. The company determines a useful life for the asset and depreciates the cost of the asset over the useful life.

#### **HISTORICAL COSTS:**

A historical cost is a measure of value used in accounting in which the value of an asset on the balance sheet is recorded at its original cost when acquired by the company. The historical cost method is used for fixed assets in the United States under generally accepted accounting principles (GAAP).

- Most long-term assets are recorded at their historical cost on a company's balance sheet.
- Historical cost is one of the basic accounting principles laid out under generally accepted accounting principles (GAAP).
- Historical cost is in line with conservative accounting, as it prevents overstating the value of an asset.
- Highly liquid assets may be recorded at fair market value, and impaired assets may be written down to fair market value.

#### **URGENT AND POSTPONABLE COST:**

Urgent costs are those costs which must be incurred in order to continue operations of the firm. For example, the costs of materials and labour which must be incurred if production is to take place.



Postponable costs refer to those costs which can be postponed at least for some time e.g., maintenance relating to building and machinery. Railways usually make use of this distinction. They know that the maintenance of rolling stock and permanent way can be postponed for some time.

### **ESCAPABLE AND UNAVOIDABLE COSTS:**

Escapable costs refer to costs which can be reduced due to a contraction in the activities of a business enterprise. It is the net effect on costs that is important, not just the costs directly avoidable by the contraction. And the difficult problem is estimating these indirect effects rather than directly savable costs.

#### **For Example:**

1. Closing apparently unprofitable branch house-storage costs of other branches and transportation charges would increase.
2. Reducing credit sales-costs estimated may be less than the benefits otherwise available.

Escapable costs are different from controllable and discretionary costs. The latter are like chopping off the additional fat and are not directly associated with a special curtailment decision.

Escapable costs are costs that can be reduced due to a contraction in the activities of a business enterprise. It is the net effect on costs that is important, not just the costs directly avoidable by the contraction. Unavoidable costs, such as labor charges, power, etc., are necessary to run the organization.

### **What are Economies of Scale?**

Economies of scale refer to the cost advantage experienced by a firm when it increases its level of output. The advantage arises due to the inverse relationship between the per-unit fixed cost and the quantity produced. The greater the quantity of output produced, the lower the per-unit fixed cost.

Economies of scale also result in a fall in average variable costs (average non-fixed costs) with an increase in output. This is brought about by operational efficiencies and synergies as a result of an increase in the scale of production.

Economies of scale can be realized by a firm at any stage of the production process. In this case, production refers to the economic concept of production and involves all activities related to the commodity, not involving the final buyer.

Thus, a business can decide to implement economies of scale in its marketing division by hiring a large number of marketing professionals. A business can also adopt the same in its input sourcing division by moving from human labor to machine labor.

### **What Are Diseconomies of Scale?**

Diseconomies of scale happen when a company or business grows so large that the costs per unit increase. It takes place when economies of scale no longer function for a firm. With this principle, rather than experiencing continued decreasing costs and increasing output, a firm sees an increase in costs when output is increased.

- Diseconomies of scale occur when the expansion of output comes with increasing average unit costs.
- Diseconomies of scale can involve factors internal to an operation or external conditions beyond a firm's control.
- Diseconomies of scale may result from technical issues in a production process, organizational management issues, or resource constraints on productive inputs.

**ECONOMIES OF SCALE:** As output increases, the long- run cost per unit decreases. Factors contributing to economies of scale include:

- Increase in output larger than increase in input.
- Specialization.
- More expensive but more efficient equipment.
- Lower waste and lower costs.
- Better use of market information.
- Volume discounts from suppliers.

**DISECONOMIES OF SCALE:** As output increases, the long-run cost per unit increases, Factors contributing to diseconomies of scale include:

- Increases in output are less than increases in input.
- Company size becomes too large to manage efficiently.
- Duplication.
- Higher labor costs.
- Higher resource costs.

## **UNIT 4**

### **MARKET STRUCTURE**

This chapter covers the types of market such as perfect competition, monopoly, oligopoly and monopolistic competition, in which business firms operate.

Basically, when we hear the word market, we think of a place where goods are being bought and sold. In economics, market is a place where buyers and— sellers are exchanging goods and services with the following considerations such as:

- Types of goods and services being traded
- The number and size of buyers and sellers in the market
- The degree to which information can flow freely.

### **CLASSIFICATION OF MARKETS OR TYPES OF MARKETS**

- Perfect or Pure Market
- Imperfect Market

### **PERFECT MARKET**

Perfect Market is a market situation which consists of a very large number of buyers and sellers offering a homogeneous product. Under such condition, no firm can affect the market price. Price is determined through the market demand and supply of the particular product, since no single buyer or seller has any control over the price.

- Perfect Competition is built on two critical assumptions:
  - The behavior of an individual firm
  - The nature of the industry in which it operates
  - The firm is assumed to be a price taker
  - The industry is characterized by freedom of— entry and exit

Perfect Competition cannot be found in the real world. For such to exist, the following conditions must be observed and required:

- A large number of sellers
- Selling a homogenous product
- No artificial restrictions placed upon price or quantity
- Easy entry and exit
- All buyers and sellers have perfect knowledge of market conditions and of any changes that occur in the market
- Firms are “price takers

## **CHARACTERISTICS OF PERFECT COMPETITION**

- There are very many small firms.
- All producers of a good sell the same product.
- There are no barriers to enter the market.
- All consumers and producers have 'perfect information'.
- Firms sell all they produce, but they cannot set a price.

## **IMPERFECT MARKET**

In economic theory, imperfect competition is a type of market structure showing some but not all features of competitive markets. Forms of imperfect competition include:

- Monopoly
- Oligopoly
- Monopolistic competition

## **MONOPOLY**

Comes from a Greek word 'monos' which means 'one' and 'polein' means to 'sell'

There is only one seller of goods or services.

A monopoly should be distinguished from a cartel.

(Cartel refers to a market situation in which firms agree to cooperate with one another to behave as if they were a single firm and thus eliminate competitive behavior among them.)

## **SOURCES OF MONOPOLY**

- There is only one producer or seller of goods and only one provider of services in the market.
- New firms find extreme difficulty in entering the market. The existing monopolist is considered giant in its field or industry.
- There are no available substitute goods or services so that it is considered unique.
- It controls the total supply of raw materials in the industry and has no control over price.
- It owns a patent or copyright.
- Its operations are under economies of scale.

## **CLASSIFICATION OF MONOPOLY**

Monopolies are classified according to circumstances they arise from, that is, cost structure of the industry, possibly the result of law, or by other means.

### **Natural Monopoly**

- Is a market situation where a single firm can supply the entire market due to the fundamental cost structure of the industry.

### **Legal Monopoly**

- Is sometimes called as de jure monopoly, a form of monopoly which the government grants to a private individual or firm over the product or services.

## Coercive Monopoly

- Is a form of monopoly whose existence as the sole— producer and distributor of goods and services is by means of coercion (legal or illegal), so that most of the time it violates the principle of free market just to avoid competition.

## DUOPOLY

A duopoly is a situation where two companies together own all, or nearly all, of the market for a given product or service. A duopoly is the most basic form of oligopoly, a market dominated by a small number of companies. A duopoly can have the same impact on the market as a monopoly if the two players collude on prices or output.

- A duopoly is a form of oligopoly, where only two companies dominate the market.
- The companies in a duopoly tend to compete against one another, reducing the chance of monopolistic market power.
- Visa and Mastercard are examples of a duopoly that dominates the payments industry in Europe and the United States.
- One disadvantage of duopolies is that consumers have little choice in products.
- Another disadvantage of duopolies is that the two players may collude and increase prices for the consumer.

## Duopoly characteristics

- **Market consists of two producers.** Both producers serve a large number of buyers, so their bargaining power is high.
- **Producers have a high strategic dependence.** Strategic actions and decisions by one company have a significant impact on the competitor.
- **Chances of collusive behavior are high.** Since both of them are highly interdependent, they are likely to collude to secure high market profits.
- **The level of competition may be fierce.** This happens when the two do not collude. Regulators usually keep a close eye on this market to avoid anti-competitive practices. Therefore, the strict supervision of regulators means that the two cannot collude.
- **Monopoly power is significant.** Apart from controlling the market supply, the two companies may also adopt a differentiation strategy. As long as each adopts a differentiation strategy, each product will have several loyal customers, presenting significant monopoly power.
- **Entry barriers are high.** It can stem from structural barriers inherent in natural characteristics of markets such as economies of scale. Or, both companies have deliberately built entry barriers such as low-price strategies and brand loyalty.
- **Economies of scale are high.** Each of the companies enjoyed high sales because the market was split between only two companies.

## OLIGOPOLY

- Comes from the Greek word “oligo” which means ‘few’ and “polein” means ‘to sell’.
- Small number of sellers, each aware of the action of others.

- All decisions depend on how the firms behave in relation to each other.
- In oligopoly, *conjectural interdependence* is present, that is, the decision of one firm influences and are influenced by the decision of other firms in the market.
- An oligopoly is a type of market structure that exists within an economy. In an oligopoly, there is a small number of firms that control the market. A key characteristic of an oligopoly is that none of these firms can keep the other(s) from having significant influence over the market. The concentration ratio measures the market share of the largest firms. 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 influence the others. An oligopoly is different from a monopoly, which is a market with only one producer.

### **Oligopoly characteristics**

The most important characteristics of oligopoly are interdependence, product differentiation, high barriers to entry, uncertainty, and price setters.

- **Firms are interdependent**  
As there are a few firms that have a relatively large portion of the market share, one firm's action impacts other firms. This means that firms are interdependent. There are two main methods through which a firm can influence the actions of other firms: by setting its price and output.
- **Product differentiation**  
When firms don't compete in terms of prices, they compete by differentiating their products. Examples of this include the automotive market, where one producer might add specific features that would help them acquire more customers. Although the car price might be the same, they are differentiated in terms of the features they have.
- **High barriers to entry**  
The market share acquired by the top companies in an industry becomes an obstacle for new companies to enter the market. The companies in the market use several strategies to keep other companies from entering the market. For instance, if firms collude, they choose the prices at a point where new companies can't sustain them. Other factors such as patents, expensive technology, and heavy advertising also challenge new entrants to compete.
- **Uncertainty**  
While companies in an oligopoly have perfect knowledge of their own business operations, they do not have complete information about other firms. Although firms are interdependent because they must consider other firms' strategies, they are independent when choosing their own strategy. This brings uncertainty to the market.
- **Price setters**  
Oligopolies engage in the practice of price-fixing. Instead of relying on the market price (dictated by Supply and Demand), firms set prices collectively and maximise their

profits. Another strategy is to follow a recognised price leader; if the leader increases the price, the others will follow suit.

## **The Kinked Demand Curve Theory**

A kinked demand curve illustrates the interdependent behaviour of firms in oligopolies.

It suggests that if one firm raises its price, the other firms in the market will not follow, leading to a sharp drop in demand for the first firm's products, which can result in reduced profits. If a firm lowers its price below the market price, its competitors will quickly follow suit, assuming they will lose market share if they do not match the lower price.

### **DEFINITION:**

A **kinked demand curve** refers to a demand curve that is not linear but has different degrees of elasticity at different price levels. It has higher elasticity for prices above the market price and lower elasticity for prices below the market price.

The reason why there is a kink in the demand curve is that there are two demand curves: one that is inelastic and one that is elastic. The kink occurs at a current market price.

The kinked demand curve was developed by American economist **Paul Sweezy** and has become crucial in oligopoly theory.

### **Impact of Price Rise**

- Consumers may switch to its rivals in case a firm increases the price, then it becomes more expensive than rivals.
- There is likely to be a notable fall in demand for the rise in price. And therefore, demand is price elastic.
- In that event, increasing-price firms will lose revenue because of the fact that the percentage fall in demand is greater than the percentage rise in price.

### **Impact of Price Cut**

- It will lead to a different scenario if a firm cuts its price. In the short term, if a firm cuts its price, it would cause a big rise in demand. Hence, this would lead to an increase in revenue. Eventually, the firm would gain market share.
- Although, other firms will respond by also cutting prices to follow the first firm because of the obvious fact that they will not want to see this fall in market share. Hence, if all firms cut prices, the individual firm will only see a small rise in demand.

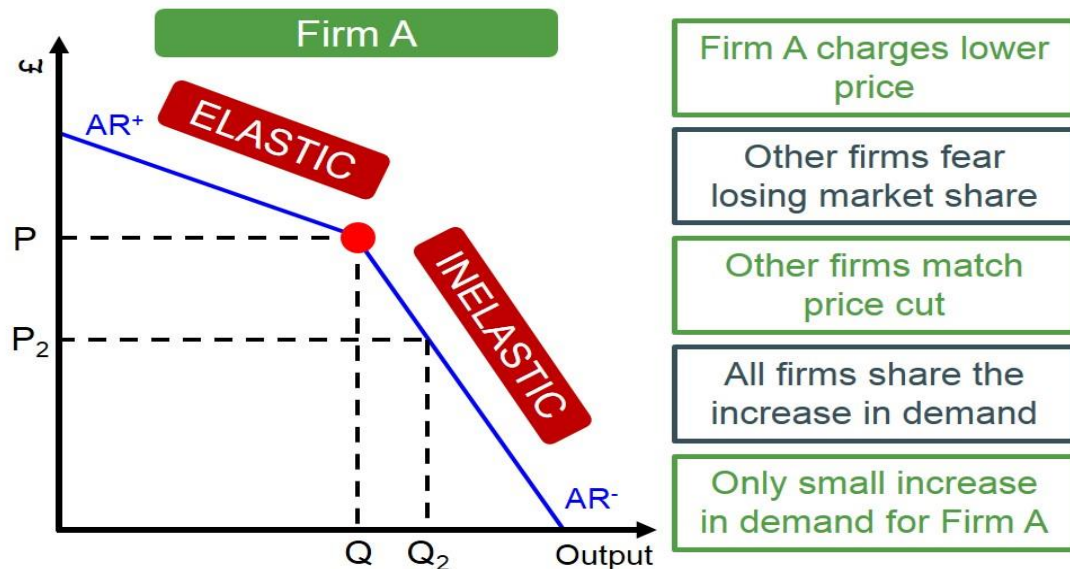
- There is a significantly small percentage rise in demand because the price war demand for a firm is price inelastic.
- In case the demand is inflexible and the price falls, then revenue will fall.

## Prices Stable

The firm has no incentive to raise the price or to cut price if the kinked demand curve is true.

## Key Points

- A kinked demand curve takes place when the demand curve is not a straight line but has a different elasticity for higher and lower prices.
- One of the examples of a kinked demand curve is the model for an oligopoly, which suggests that prices are inflexible. Those firms will face different effects for both increasing price or decreasing price.
- The kink in the demand curve takes place because rival firms will behave in a different way to price cuts and price increases.
- Hence, the kinked demand curve is said to be characteristic of an oligopoly.





## **Monopolistic Competition**

Monopolistic competition exists when many companies offer competing products or services that are similar, but not perfect, substitutes.

The barriers to entry in a monopolistic competitive industry are low, and the decisions of any one firm do not directly affect its competitors. The competing companies differentiate themselves based on pricing and marketing decisions.

- Monopolistic competition occurs when many companies offer products that are similar but not identical.
- Firms in monopolistic competition differentiate their products through pricing and marketing strategies.
- Barriers to entry, or the costs or other obstacles that prevent new competitors from entering an industry, are low in monopolistic competition.

## **Understanding Monopolistic Competition**

Monopolistic competition exists between a monopoly and perfect competition, combines elements of each, and includes companies with similar, but not identical, product offerings.

Restaurants, hair salons, household items, and clothing are examples of industries with monopolistic competition. Items like dish soap or hamburgers are sold, marketed, and priced by many competing companies.

Demand is highly elastic for goods and services of the competing companies and pricing is often a key strategy for these competitors. One company may opt to lower prices and sacrifice a higher profit margin, hoping for higher sales. Another may raise its price and use packaging or marketing that suggests better quality or sophistication.

Companies often use distinct marketing strategies and branding to distinguish their products. Because the products all serve the same purpose, the average consumer often does not know the precise differences between the various products, or how to determine what a fair price may be.

## **Characteristics of Monopolistic Competition**

### **Low Barriers to Entry**

In monopolistic competition, one firm does not monopolize the market and multiple companies can enter the market and all can compete for a market share. Companies do not need to consider how their decisions influence competitors so each firm can operate without fear of raising competition.

### **Product Differentiation**

Competing companies differentiate their similar products with distinct marketing strategies, brand names, and different quality levels.

## **Pricing**

Companies in monopolistic competition act as price makers and set prices for goods and services. Firms in monopolistic competition can raise or lower prices without inciting a price war, often found in oligopolies.

## **Demand Elasticity**

Demand is highly elastic in monopolistic competition and very responsive to price changes. Consumers will change from one brand name to another for items like laundry detergent based solely on price increases.

## **Advantages and Disadvantages of Monopolistic Competition**

Monopolistic competition provides both benefits and pitfalls for companies and consumers.

### **Pros**

- Few barriers to entry for new companies
- Variety of choices for consumers
- Company decision-making power for prices and marketing
- Consistent quality of product for consumers

### **Cons**

- Many competitors limits access to economies of scale
- Inefficient company spending on marketing, packaging and advertising
- Too many choices for consumers means extra research for consumers
- Misleading advertising or imperfect information for consumers

## UNIT 5

### PRICING AND BUSINESS CYCLES

Pricing analysis is the process of using data and analytics to determine the optimal price for a product or service. It involves gathering information about customer behavior, competitor pricing, and market trends to make informed decisions about pricing.

There are several data and analytics methods used for pricing analysis, including:

1. **Customer segmentation:** Dividing customers into groups based on similar characteristics such as age, gender, location, and spending habits. This helps to identify which customer segments are more likely to pay higher prices for a product.
2. **Competitor analysis:** Gathering information about competitors' pricing strategies, product offerings, and market share to identify areas where pricing adjustments can be made.
3. **Demand forecasting:** Predicting the demand for a product or service based on historical data, market trends, and external factors such as economic conditions.
4. **Price elasticity analysis:** Determining how responsive customers are to changes in pricing by analyzing historical sales data and testing different pricing strategies.

#### Meaning of Pricing:

Pricing is a process of fixing the value that a manufacturer will receive in the exchange of services and goods. Pricing method is exercised to adjust the cost of the producer's offerings suitable to both the manufacturer and the customer. The pricing depends on the company's average prices, and the buyer's perceived value of an item, as compared to the perceived value of competitors product.

Every businessperson starts a business with a motive and intention of earning profits. This ambition can be acquired by the pricing method of a firm. While fixing the cost of a product and services the following point should be considered:

- The identity of the goods and services
- The cost of similar goods and services in the market
- The target audience for whom the goods and services are produces
- The total cost of production (raw material, labour cost, machinery cost, transit, inventory cost etc).
- External elements like government rules and regulations, policies, economy, etc.,

## **Objectives and significance of Pricing:**

- **Survival-** The objective of pricing for any company is to fix a price that is reasonable for the consumers and also for the producer to survive in the market. Every company is in danger of getting ruled out from the market because of rigorous competition, change in customer's preferences and taste. Therefore, while determining the cost of a product all the variables and fixed cost should be taken into consideration. Once the survival phase is over the company can strive for extra profits.
- **Expansion of current profits-** Most of the company tries to enlarge their profit margin by evaluating the demand and supply of services and goods in the market. So the pricing is fixed according to the product's demand and the substitute for that product. If the demand is high, the price will also be high.
- **Ruling the market-** Firm's impose low figure for the goods and services to get hold of large market size. The technique helps to increase the sale by increasing the demand and leading to low production cost.
- **A market for an innovative idea-** Here, the company charge a high price for their product and services that are highly innovative and use cutting-edge technology. The price is high because of high production cost. Mobile phone, electronic gadgets are a few examples.

## **What is Pricing Method?**

Pricing method is a technique that a company apply to evaluate the cost of their products. This process is the most challenging challenge encountered by a company, as the price should match the current market structure and also compliment the expenses of a company and gain profits. Also, it has to take the competitor's product pricing into consideration so, choosing the correct pricing method is essential.

## **Types of Pricing Method:**

The pricing method is divided into two parts:

**Cost Oriented Pricing Method**– It is the base for evaluating the price of the finished goods, and most of the company apply this method to calculate the cost of the product. This method is divided further into the following ways.

**Cost-Plus Pricing-** In this pricing, the manufacturer calculates the cost of production sustained and includes a fixed percentage (also known as mark up) to obtain the selling price. The mark up of profit is evaluated on the total cost (fixed and variable cost).

**Markup Pricing-** Here, the fixed number or a percentage of the total cost of a product is added to the product's end price to get the selling price of a product.

**Markdown pricing** -Markdown prices are the rate (markdown percentage) decrease in the selling price of a product from its original selling price. The term discount is a more common

term to describe markdown prices. When companies offer sales (like 25% off, etc.) they are applying markdown prices to their products.

**Target-Returning Pricing-** The company or a firm fix the cost of the product to achieve the Rate of Return on Investment.

**Market-Oriented Pricing Method-** Under this category, the is determined on the base of market research

**Perceived-Value Pricing-** In this method, the producer establish the cost taking into consideration the customer's approach towards the goods and services, including other elements such as product quality, advertisement, promotion, distribution, etc. that impacts the customer's point of view.

**Value pricing-** Here, the company produces a product that is high in quality but low in price.

**Going-Rate Pricing-** In this method, the company reviews the competitor's rate as a foundation in deciding the rate of their product. Usually, the cost of the product will be more or less the same as the competitors.

**Auction Type Pricing-** With more usage of internet, this contemporary pricing method is blooming day by day. Many online platforms like OLX, Quickr, eBay, etc. use online sites to buy and sell the product to the customer.

**Differential Pricing-** This method is applied when the pricing has to be different for different groups or customers. Here, the pricing might differ according to the region, area, product, time etc.

### **Marginal cost pricing**

Marginal-cost pricing, in economics, the practice of setting the price of a product to equal the extra cost of producing an extra unit of output. By this policy, a producer charges, for each product unit sold, only the addition to total cost resulting from materials and direct labour.

### **Average cost pricing**

The average cost price is the average amount or its quantity as the arithmetic average. The total sum of the data given to the total number of data given is defined as average or mean. For average cost pricing, we have the cost of the items and the total number of items or products given.

### **Peak rate pricing**

Peak pricing is a form of congestion pricing where customers pay an additional fee during periods of high demand. Peak pricing is most frequently implemented by utility companies, which charge higher rates during times of the year when demand is the highest.

### **Pricing of joint products**

In microeconomics, joint product pricing is the firm's problem of choosing prices for joint products, which are two or more products produced from the same process or operation, each considered to be of value. Pricing for joint products is more complex than pricing for a single product.

### **Pricing over the life cycle of the product**

Product life cycle pricing is a strategy for selling products in which pricing correlates with a product's location in its life cycle. There are four phases within the life cycle, including launch, growth, maturity and declination. Businesses use product life cycle pricing to better understand how discounts, clearance prices, new versions and marketing can affect their sales in each phase. A company may choose to strategize differently depending on the market and how its product sells.

### **Skimming and penetration pricing**

When a company launches a new product, it can be a challenge to determine the right price strategy. Choosing between price skimming or penetration pricing depends on objectives in terms of customer target or product life cycle. Effectively determining between the two strategies can help you maximize profits, improve your brand's image or reduce competition. In this article, we review the differences between price skimming and penetration pricing and look at examples to help you make an informed choice between the two options.

- Price skimming sets prices higher to attract customers most interested in the product or service to maximize short-term profits.
- Penetration pricing uses lower prices to build a customer base for new products or services.
- The right strategy depends on whether a company wants to maximize market share, total profit, customer value or profit margin.

### **What Is a Business Cycle?**

Business cycles are a type of fluctuation found in the aggregate economic activity of a nation -- a cycle that consists of expansions occurring at about the same time in many economic activities, followed by similarly general contractions (recessions). This sequence of changes is recurrent but not periodic.

The business cycle is an example of an economic cycle.

- Business cycles are comprised of concerted cyclical upswings and downswings in the broad measures of economic activity—output, employment, income, and sales.
- The alternating phases of the business cycle are expansions and contractions (also called recessions).

- Recessions often start at the peak of the business cycle—when an expansion ends—and end at the trough of the business cycle, when the next expansion begins.
- The severity of a recession is measured by the three D's: depth, diffusion, and duration, and the strength of an expansion by how pronounced, pervasive, and persistent it is.

## **Characteristics of Business Cycle**

The business cycle occurs periodically in a wave-like fashion with varying magnitude affecting not only the entire economy of the country but also making its impact on economies of other countries. Let us discuss its features / characteristics in detail.

### **1. Business cycle occurs Periodically.**

The Business cycles occur periodically in a regular fashion. This means the prosperity and depression will be occurring alternatively. But there need not be uniformity in the extent and magnitude. Though the general structure of different cycles may be the same, it may not be perfectly rhythmical in character.

### **2. It is all embracing.**

The business cycle implies that the prosperity or depressionary effect of the phase will be affecting all industries in the entire economy and also affect the economies of other countries. It is international in character. The Great Depression of 1929 is an example of this.

### **3. Business Cycle is wave-like**

The business cycle will have set pattern of movements which is analogous to waves. Rising prices, production, employment, and prosperity will become the features of upward movement. Falling prices, unemployment will become the features of the downward movement.

### **4. Process of Business Cycle is cumulative and self-reinforcing**

The upward movement and downward movement are cumulative in their process. When once the upward movement starts, it creates further movement in the same direction by feeding on itself. This movement will persist till the forces accumulate to alter the direction and create the downward movement. When a downward movement starts, it persists in the same direction leading to the worst depression and stagnation till it is retrieved to gain an upward movement.

### **5. The cycles will be similar but not identical**

Different cycles and waves in the business cycles will be similar in general features, but they are not identical in all respects.

## **Stages of the Business Cycle**

In the diagram above, the straight line in the middle is the steady growth line. The business cycle moves about the line. Below is a more detailed description of each stage in the business cycle:

### ***1. Expansion***

The first stage in the business cycle is expansion. In this stage, there is an increase in positive economic indicators such as employment, income, output, wages, profits, demand, and supply of goods and services. Debtors are generally paying their debts on time, the velocity of the money supply is high, and investment is high. This process continues as long as economic conditions are favorable for expansion.

### ***2. Peak***

The economy then reaches a saturation point, or peak, which is the second stage of the business cycle. The maximum limit of growth is attained. The economic indicators do not grow further and are at their highest. Prices are at their peak. This stage marks the reversal point in the trend of economic growth. Consumers tend to restructure their budgets at this point.

### ***3. Recession***

The recession is the stage that follows the peak phase. The demand for goods and services starts declining rapidly and steadily in this phase. Producers do not notice the decrease in demand instantly and go on producing, which creates a situation of excess supply in the market. Prices tend to fall. All positive economic indicators such as income, output, wages, etc., consequently start to fall.

### ***4. Depression***

There is a commensurate rise in unemployment. The growth in the economy continues to decline, and as this falls below the steady growth line, the stage is called a depression.

### ***5. Trough***

In the depression stage, the economy's growth rate becomes negative. There is further decline until the prices of factors, as well as the demand and supply of goods and services, contract to reach their lowest point. The economy eventually reaches the trough. It is the negative saturation point for an economy. There is extensive depletion of national income and expenditure.

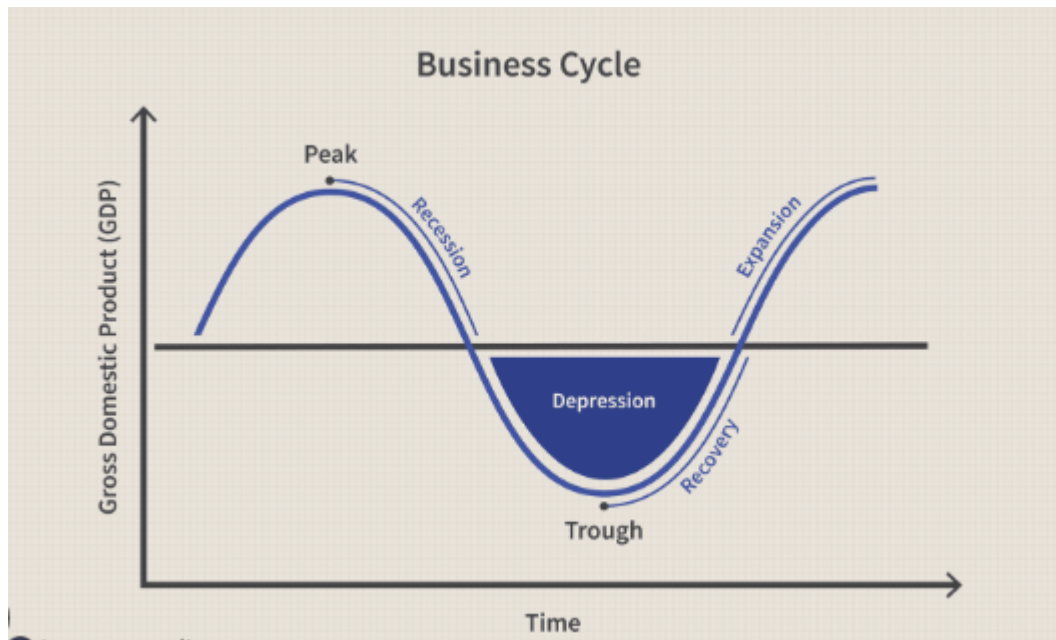


## 6. Recovery

After the trough, the economy moves to the stage of recovery. In this phase, there is a turnaround in the economy, and it begins to recover from the negative growth rate. Demand starts to pick up due to low prices and, consequently, supply begins to increase. The population develops a positive attitude towards investment and employment and production starts increasing.

Employment begins to rise and, due to accumulated cash balances with the bankers, lending also shows positive signals. In this phase, depreciated capital is replaced, leading to new investments in the production process. Recovery continues until the economy returns to steady growth levels.

This completes one full business cycle of boom and contraction. The extreme points are the peak and the trough.



## Causes of Business Cycles

The cyclic pattern of changes that occurs in the economy is caused by many factors in combination. There are internal factors within the economy that may be causing these changes. And there are also external factors which may lead to a boom or bust of an economy. Let us take a look at all the causes of business cycles.

## **Internal Causes of Business Cycles**

These endogenous factors can cause changes in the phases of the firm and the economy in general. Let us take a look at the internal causes of business cycles.

### ***1] Changes in Demand***

Keynes economists believe that a change in demand causes a change in the economic activities. When the demand in an economy increases the firms start producing more goods to meet the demand.

There is more output, more employment, more income, and higher profits. This will lead to a boom in the economy. But excessive demand may also cause inflation.

On the other hand, if the demand falls, so does the economic activity. This may lead to a bust, which if it continues for a longer period of time may even lead to depression in the economy.

### ***2] Fluctuations in Investments***

Just as fluctuations in demand, fluctuations in investment is one of the main causes of business cycles. The investments will fluctuate on the basis of a lot of factors such as the rate of interest in the economy, entrepreneurial interest, profit expectation, etc.

An increase in investment will lead to an increase in economic activities and cause expansion. A decrease in investment will have the opposite effect and may cause a trough or even depression

### ***3] Macroeconomic Policies***

The monetary policies and the economic policies of a nation will also result in changes in the phases of a business cycle. So if the monetary policies are looking to expand economic activities by promoting investment, then the economy booms. On the other hand, if there is an increase in taxes or interest rates we will see a slowdown or a recession in the economy.

### ***4] Supply of Money***

There is another belief that says that business cycles are purely monetary phenomena. So changes in the money supply will bring about the trade cycles. An increase of money in the market will cause growth and expansion.

But too much money supply may also cause inflation which is adverse. And the decrease in the supply of money will initiate a recession in the economy.

## **External Causes of Business Cycles**

### ***1] Wars***

During times of wars and unrest, the economic resources are put to use to make special goods like weapons, arms, and other such war goods. The focus shifts from consumer products and capital goods. This will lead to a fall in income, employment, and economic activity. So the economy will face a downturn during war times.

And later post-war the focus will be on rebuilding. Infrastructure needs to be reconstructed (houses, roads, bridges, etc). This will help the economy pick up again as progress is being made. Economic activity will increase as effective demand will increase.

### ***2] Technology Shocks***

Some exciting and new technology is always a boost to the economy. New technology will mean new investment, increased employment, and subsequently higher incomes and profits. For example, the invention of the modern mobile phone was the reason for a huge boost in the telecom industry.

### ***3] Natural Factors***

Natural disasters like floods, droughts, hurricanes, etc can cause damage to the crops and huge losses to the agricultural sector. Shortage of food will cause a surge in prices and high inflation. Capital goods may see a reduction in demand as well.

### ***4] Population Expansion***

If the population growth is out of control that might be a problem for the economy. Basically if the population growth is higher than the economic growth the total savings of an economy will start dwindling. Then the investments will reduce as well and the economy will face depression or a slow down.

## **Control of Business Cycle Fluctuations Measures and Controls**

Following are the main measures which can be suggested for the effective control of business cycle fluctuation.

1. Monetary Policy
2. Fiscal Policy
3. State Control of Private Investment
4. International Measures to Control of Business Cycle Fluctuation

## 5. Reorganization of Economic System

### **1. Monetary Policy A Control of Business Cycle**

Monetary policy as measure to control business cycle fluctuation refers to all those measures which are taken with a view to control money and credit supply in the country. When we are in the state of full employment and we are facing inflation, a deflationary policy may be adopted. The central bank can reduced the quantity of money in circulation. The bank can adopt different measures for this purpose, like increase in the bank rate, selling of securities in the market, increasing the reserve ratio of the member banks etc.

On the other hand, in case of deflation the central bank can adopt inflationary monetary policy by lowering the bank rates or purchase of securities. Monetary policy has achieved a very limited success in the past, because central bank has not full power over the supply of money and credit in the country. Moreover, the quantity of money has failed during the world depression of 1930s.

### **2. Fiscal Policy Measure to Control of Business Cycle Fluctuation**

Fiscal policy as measure to control business cycle fluctuation nowadays is considered to be a powerful anti-cycle weapon in the hands of the government. Fiscal policy involves the process of shaping the public finance (income and expenditure) with a view of reduce fluctuations in the business cycle and attainment of full employment without inflation.

In case of inflation the governments reduces the public work programs, imposing heavy taxes on business profits to discourage private investment, reduces purchasers power, taking loans from the people, prepares surplus budget to reduce public debt. All these fiscal measures greatly help in reducing the inflationary trend in the economy.

If the economy facing depression, the government increases it expenditure on public works programs like construction of new canals, new roads, buildings etc. Increase in government expenditure, income, employment, profit and consumption of the people. In order to encourage private investment the government reduces taxes on profit. The government also prepares deficit budget and the deficit is met by loans. All these fiscal measures to control business cycle sets in upswing in the economy.

### **3. State Control of Private Investment**

Some economists have suggested that if a government takes control of private investment is a tool to control of business cycle fluctuations can be controlled within the limits. The other economists, who disagree with the above view state that if a government takes control of private investment, private investment will be discouraged. Low investment will reduce employment and income. J.M Keynes is of the view that if we adopt the middle way we can get control of business cycle fluctuation.

### **4. International Measures Control of Business Cycle**

Today, every country has trade relations with the rest of the world. If there is inflation or deflation in one country, it can be easily carried to other countries. The example of great depression can be given. Business cycle is an international phenomenon and it should be tackled on international level. Different measures to control business cycle fluctuations have been suggested by some well-known economists these are:

- Control of International Production
- International Bill Stock Control
- International Investment Control

### **5. Reorganization of Economic System**

Some economists suggest that there should be complete reorganization of the whole economic system to control of business cycle fluctuation. The capitalistic system of production should be replaced by the socialistic system of production. In socialistic economy, there are few chances of cyclic fluctuations. In 1930, when all capitalist countries of the world were suffering from depression, it was only socialist countries which were free from such crisis.