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Year – I
Semester – I
Paper - III

Economic Analysis - I

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Economic Analysis - I

Objective

To provide a thorough understanding of the basic principles of the economics and its applications

Unit – I **(8 Periods)**

Definition of Economics - Wealth – Welfare – Definitions – Definition as a science choice of Decision making – Economics – Science or Art – Positive science – Normative science – Scope of Economics – Micro and Macro Economics

Unit – II **(12 Periods)**

Utility – Approaches to Utility Analysis – Law of Diminishing Marginal Utility – Exception to the Law – Consumer Surplus – Consumer Equilibrium – Law of Equi Marginal Utility – Indifference curve – Marginal rate of Substitution – Proportion of indifference curve

Unit – III **(14 Periods)**

Demand – Basics – Theory of Demand – Elasticity of Demand – Exception to the Law of Demand – Supply – Law of Supply – Factors of Production – Production Function – Law of Variable Proportion – Law of Return to Scale

Unit – IV **(12 Periods)**

Types of costs – Short run and Long run Cost behaviour – Revenue concepts – Break Even Analysis

– Limitations

Unit – V **(14 Periods)**

Market – Basics – Types of Markets – Monopoly – Monopolistic – Oligopoly – Perfect Competition

Text Book

1. Business Economics - S.Sankaran

2. Business Economics - Aryamala

Reference Books

1. Micro Economics theory and Applications – Maddala Ellen Miller
2. Business Economics - P.N.Reddy and H.R.Appanniah
3. Managerial Economics- R.L.Varasheney and K.L.Maheswari
4. Modern Economic Theory- K.K.Dewett

Economic Analysis I

Definition of Economics

Structure

- Overview
- Learning Objectives
- 1.1 Introduction to Economics
- 1.2 Wealth Definition (Adam Smith)
- 1.3 Welfare Definition (Alfred Marshall)
- 1.4 Scarcity Definition (Lionel Robbins)
- 1.5 Modern / Growth-Oriented Definition (Paul Samuelson)
- 1.6 Micro and Macro Economics
- Summary
- Check Your Progress
- Glossary
- Suggested Reading

Overview

"Economics is one of the oldest and most evolving social sciences that studies how individuals and societies make decisions about producing, distributing, and consuming goods and services. Over the time, meaning and also scope have transformed—from being termed a 'science of wealth' by classical economists, to a 'science of human welfare' by the neoclassical school, a 'science of scarcity and choice' by Lionel Robbins, and ultimately a 'dynamic and growth-oriented discipline' as described by modern economists such as Paul Samuelson."

This unit introduces learners to the evolution of economic thought and explains the various definitions of economics given by leading economists. It also explores the

distinction between microeconomics and macroeconomics, helping students understand the foundation of modern economic analysis.

Learning Objectives

After completion of this unit, learners will be capable to:

- Explain the meaning as well as nature of the economics.
- Understand definitions of the term economics proposed by different schools of thought.
- Differentiate between wealth, welfare, scarcity, and modern definitions of economics.
- Identify the merits and limitations of each approach.
- Recognize the interdependence of micro and macroeconomics.
- Relate economic theories to real-world decision-making.

1.1 Introduction to Economics

The term *Economics* is originally derived from the Greek words "Oikos" which indicates *household* and "Nomos" meaning *management*. Thus, economics originally meant "household management." Over the time, this meaning broadened to include management of resources at the individual, business, and national levels.

Economics studies how people and societies use scarce resources which also have some alternative uses to satisfy unlimited wants. It helps to understand how choices are being made, how markets operate, how wealth is generated, and how welfare can be maximized.

Definition of Economics

The term economics is been defined by the different authors in different perspective which have been discussed hereunder:

1.2 Wealth Definition – Adam Smith (Classical School)

The Classical School of Economists, led by Adam Smith, is known for defining the term economics as the *"Science of Wealth."*

"In his renowned work 'An Inquiry into the Nature and Causes of the Wealth of Nations' (1776), Adam Smith emphasized that the central goal of human effort is to acquire and accumulate wealth. Hence, economics, according to him, deals with the processes of generating, distributing, and utilizing wealth."

Key Features

- Economics is considered as science since it studies wealth.
- The objective of any human activity is purely to acquire and increase wealth.
- Material prosperity ensures national progress.
- Wealth creation is essential to overcome poverty and unemployment.

Merits of Wealth Definition

Merits	Explanation
Focus on wealth creation	Highlighted the importance of production and capital formation for national prosperity.
Practical orientation	Encouraged industrial and commercial expansion, especially during the Industrial Revolution.
Foundation for later theories	Provided a base for further economic thought on trade, production, and markets.

Demerits of Wealth Definition

Demerits	Explanation
Too narrow	Restricted economics to the study of wealth alone.
Ignored human welfare	Neglected man's social and moral dimensions.
Materialistic	Critics like Carlyle called it "the dismal science" and "Gospel of Mammon."
Selfish motive	Treated man as wealth-seeking, ignoring values like charity and cooperation.

Adam Smith's definition laid the foundation for economics as science but failed to recognize that wealth is only a means, not an end.

1.3 Welfare Definition – Alfred Marshall (Neo-Classical School)

Alfred Marshall redefined economics in his book *"Principles of Economics"* (1890). He stated that **"**Economics is a study of mankind in the ordinary business of life. It examines how people earn and use income to promote material well-being."

According to Marshall, wealth is not the ultimate goal but merely a means to achieve human welfare. Hence, the focus shifted from wealth to man.

Features of Welfare Definition

- Emphasizes *human welfare* rather than wealth.
- Divides human activities into *economic* (income-generating) and *non-economic* (non-material) activities.

Merits of Welfare Definition

Merits	**Explanation**
Human-centred approach	This definition recognises economics as a study which focuses on human welfare, and not just money or goods.
Normative orientation	Introduced value judgments, linking economics to moral and ethical welfare.
Comprehensive scope	Included both individual and societal aspects of economic well-being.

Demerits

Demerits	**Explanation**
Vague concept of welfare	Did not define welfare clearly; it is subjective and varies from person to person.
Excluded non-material services	Ignored important non-material services like education and health.
Neglected scarcity	Failed to recognize scarcity and choice as the root of economic problems.

Marshall humanized economics by connecting wealth to welfare. However, the lack of clarity about welfare limited the universality of his definition.

1.4 Scarcity Definition – Lionel Robbins (1932)

Lionel Robbins, a British economist from the London School of Economics, provided a scientific definition in the book titled "*An Essay on the Nature and Significance of Economic Science"* (1932).

"Robbins defined economics as the discipline that examines how human behaviour relates to the use of limited resources that have multiple possible applications to satisfy various wants."

Key Features

- **Unlimited wants (ends):** Human wants are endless.
- **Scarce resources (means):** Resources available to satisfy the wants are limited.
- **Alternative uses:** Resources can be used in many ways, requiring choice.
- **Choice-making:** Economics studies how to choose between competing ends.

Example:

A student has limited time and must choose between studying for exams, attending a family event, or working part-time. This decision-making under scarcity illustrates Robbins' concept.

Merits

Merits	**Explanation**
Scientific approach	Made economics a positive science focused on facts and logic.
Universal application	Applicable to all economies, rich or poor.
Recognized scarcity and choice	Emphasized real-world constraints faced by individuals and nations.

Demerits

Demerits	Explanation
Ignored welfare	Focused on choice-making, not human happiness.
Static approach	Ignored growth, development, and changes over time.
Too abstract	Overemphasized theory over practical social issues like poverty.

Robbins' scarcity definition marked a turning point, giving economics a scientific foundation, but it separated economics from ethical and welfare concerns.

1.5 Modern / Growth-Oriented Definition – Paul A. Samuelson

Paul A. Samuelson, a Nobel Laureate, provided a dynamic and comprehensive definition of economics in his book *"Economics"* (1948).

"According to Samuelson, economics is the study of how individuals and societies, whether using money or not, decide to allocate scarce productive resources—each with alternative uses—to produce goods and services over time and distribute them among people and groups for both present and future consumption."

Main Points

- Combines wealth, welfare, and scarcity.
- Emphasizes both *present and future* consumption (inter-generational balance).
- Recognizes economics as a *growth-oriented and dynamic science*.
- Incorporates production, distribution, exchange, and consumption.

Merits

Merits	Explanation
Comprehensive and dynamic	Considers both present and future aspects of economic activity.
Integrative definition	Combines welfare, scarcity, and growth perspectives.
Universal appeal	Applicable to developed and developing economies alike.

Demerits

Demerits	Explanation
Complexity	The inclusion of multiple dimensions makes it theoretical and less simple.
Limited measurability	Growth and welfare aspects are not easily quantifiable.

Samuelson's definition is widely accepted today as it balances *human welfare, resource scarcity,* and *economic growth.*

Nature of Economics

There is a great controversial opinion among the economists regarding the nature of economics, whether the subject 'economics' is to be considered as science or an art.

Economics as a Science

"Economics qualifies as a science since it employs a structured and analytical method to study human behaviour concerning the creation, distribution, and utilization of goods and services.".

Prof. Robbins, Prof Jordon, Prof. Robertson etc., considered economics as science. According to them, sine economics is also a systematic study of knowledge and facts, deals with the correlation-ship between cause and effect, all the laws in economics are also universally accepted, like, law of demand and supply, law of diminishing marginal utility etc. is strongly treated as the science.

The study of economics relies on observation, data collection, experimentation, and analysis to understand economic phenomena and establish cause-and-effect relationships. By formulating theories and models—such as those explaining supply, demand, and price determination—economists can analyze patterns, test hypotheses, and make predictions about future trends.

Statistical and mathematical tools further enhance the precision and reliability of economic analysis. Like other sciences, economics seeks to develop the general

principles which explain how economies function, providing a rational and evidence-based foundation for policy formulation and decision-making.

Again, the next question arises whether Economics is to be treated as 'Positive Science' or Normative Science.

Economics is positive science because:

- As a first step, economists collect the facts.
- Secondly, the same is being analysed and the result is derived.
- Thirdly, the relationship between facts and results are being determined.
- Finally, they give a title to the same.

Economics is normative science because:

- As a first step, economists point out different economic problems.
- Secondly, it is being analysed in the light of statistics.
- Finally, they do advise policies, laws, theories to resolve the problem.

Positive microeconomics is related with determination of relative prices as well as allocation of resources between different commodities. Whereas, positive macroeconomics is concerned with how level of income of a nation and employment, aggregate consumption and investment, and general price levels are determined. Normative economics on the other side is related with what price should be fixed for any product what kind of the wage rate should be paid, how income should be distributed, etc.

Economics as an Art

Economics is accepted as an art because it focuses on the practical application of theoretical knowledge to real-life situations. It involves using established economic principles and models to solve pressing problems such as inflation, poverty, unemployment, and unequal distribution of wealth.

The discipline demands creativity, judgment, and experience, as economists and policymakers must design innovative strategies tailored to specific social, cultural, and ethical contexts. Unlike pure sciences that rely solely on universal laws, the art of

economics lies in adapting theoretical insights to dynamic human behaviour and changing economic environments. Thus, economics is an art which bridges gap between theory and the practice.

Thus, it can be concluded that Economics is science in its methodology and an art in its application, because it has theoretical and the practical aspects.
To make it more stronger economics is a science as well as an art.

1.6 Micro and Macro Economics

Economics is divided into two categories— **Microeconomics** and **Macroeconomics**.

Microeconomics

- Derived from *'Mikros'* a Greek word which means *small.*
- Studies the behaviour of **individual units** such as consumers, firms, and industries.
- Focuses on *demand, supply, pricing, and output decisions.*

Examples:

- How a firm decides the price of its product.
- How a consumer allocates income among different goods.

Macroeconomics

- Derived from *'Makros'* meaning *large.*
- Deals with the **whole economy**—aggregate income, employment, inflation, and growth.
- Concerned with national economic policies and overall performance.

Examples:

- Study on National income and Gross Domestic Product.
- Analysis of inflation and unemployment in a country.

The following table describes the nature of both microeconomics and macroeconomics:

Basis	Microeconomics	Macroeconomics
Meaning	Study about individual economic units.	Study about the economy as whole.
Scope	Prices, output, production, consumption.	National income, inflation, growth and employment.
Objective	Efficiency and distribution of resources	Stability and overall economic growth
Key Models	Demand and the Supply, Consumer and Producer Equilibrium	Aggregate Demand, Aggregate Supply, Fiscal and Monetary Policy

Micro Economics Vs Macro Economics

Micro Economics	Macro Economics
It focuses on examining the behaviour and performance of specific units or components within an economy.	It involves examining the economy in its entirety, focusing on overall aggregates and broad economic indicators.
It focuses on aspects such as personal income, specific prices, and the output of individual firms or industries.	It focuses on broad aggregates such as national income, overall price levels, and total national output.
Its main concern is determining prices and distributing resources efficiently.	Its main focus is to assess the total income and employment generated within the entire economy.
It mainly uses the demand and supply of particular goods or production factors as its analytical tools.	Its primary analytical framework is built on aggregate demand and aggregate supply, which capture the behaviour of the economy as a whole.
It helps resolve the basic economic questions of what goods should be produced, the methods used to produce	It aids in addressing the fundamental issue of achieving full employment of resources within the economy.

them.	
It examines how equilibrium is achieved for a consumer, a producer, or an industry.	It aims at identifying the equilibrium levels of income and employment for the economy as a whole.
Price is the primary factor influencing microeconomic issues	Income is a key factor influencing macroeconomic issues.
Examples include individual income, personal savings, the pricing of a specific commodity, the output of a single firm, and consumer equilibrium.	Examples include national income, national savings, overall price levels, aggregate demand, aggregate supply, poverty, and unemployment.

Both branches are interdependent — microeconomic decisions affect macro-outcomes, and macroeconomic policies influence individual behaviour.

Summary

This unit explored how economic thinking has progressed from the classical period to modern times. Adam Smith highlighted the creation of wealth, while Alfred Marshall shifted the focus to human welfare. Lionel Robbins later defined economics around the idea of scarcity and choice, and Paul Samuelson brought these perspectives together within a broader, growth-oriented framework.

Check Your Progress

1. Define economics in your own words.
2. Explain Adam Smith's "Wealth Definition" and its main limitations.
3. How did Alfred Marshall link wealth with welfare?
4. Describe Lionel Robbins' definition of economics.
5. "Scarcity and choice are central to economic problems." – Explain.
6. Outline the main features of Paul Samuelson's modern definition.
7. Compare and contrast the definitions given by Robbins and Samuelson.
8. Distinguish between microeconomics and macroeconomics.

9. Illustrate the interdependence between micro and macroeconomics with examples.

Glossary

Term	Meaning
Wealth	Material possessions and resources that contribute to prosperity.
Welfare	Human well-being and satisfaction derived from economic activity.
Scarcity	Limited availability of resources relative to human wants.
Choice	Making decisions between different possible uses of limited resources.
Microeconomics	It focuses on the economic actions and choices of single entities, including families and firms.
Macroeconomics	It focuses on analysing the actions and decisions of individual entities, including consumers and businesses. **Option 3:** It involves examining the behaviour and decision-making patterns of specific units like families and enterprises. **Option 4:** It studies how individual consumers and producers respond to economic conditions and make economic decisions. If you want a more academic, concise, or simple version, I can refine it further.
Growth	Increase in a country's production and income over time.
Positive Science	Deals with 'what is' rather than 'what ought to be'.

Term	Meaning
Normative Science	Concerned with value judgments and welfare.

Suggested Reading

1. **Ahuja, H.L.** – *Modern Economics: Micro and Macro Theory and Applications*, S. Chand.
2. **Paul A. Samuelson & William D. Nordhaus** – *Economics*, McGraw-Hill.

Unit II: Utility Analysis and Consumer Behaviour

Structure

- Overview
- Learning Objectives
- 2.1 Introduction
- 2.2 Concept of Utility
- 2.3 Approaches to Utility Analysis

Overview

Utility analysis forms the core of microeconomic theory, which explain about consumers way of making decisions to allocate their resources and satisfy their needs. This unit covers both the cardinal (measurable utility) and ordinal (rank-based preference) approaches, explains fundamental laws and introduces indifference curve analysis as a modern approach

Learning Objectives

After completion, students could able to:

- Explain concept and various kinds of utility.
- Distinguish cardinal and the ordinal utility analysis.
- Understand and measure consumer surplus.
- Interpret and draw indifference curves and explain the marginal rate of substitution.
- Apply utility concepts to real-world consumer behaviour.

2.1 Introduction

"Utility refers to the level of satisfaction or pleasure that a consumer experiences from consuming goods or services." Economic expert study consumer behaviour using two main approaches: the cardinal approach, which treats utility as measurable in units called "utils," and the ordinal approach, which assumes consumers can rank their preferences without assigning numerical values.

Meaning of the term 'Utility'

Utility essentially denotes the ability to provide satisfaction or usefulness. In economics, it refers to a good or service's capacity to meet human wants. Utility is the characteristic of goods or services that allows them to satisfy consumer needs. Utility is generally measured in monetary terms and is relative, individual perceive it in different manner depending on circumstances. Utility differs from mere usefulness: a product may be useful, yet it might not provide utility if it fails to satisfy a specific want.

Whenever a consumer purchases or consumes a product, they derive some benefit or satisfaction from its use. This satisfaction, in turn, forms the basis of consumer demand, as individuals decide to buy goods depending on the utility they expect to receive.

The level of utility a commodity provides will depend upon the intensity of the consumer's desires or needs. A stronger or unmet desire for any good increase the urgency to obtain it, thereby enhancing the utility derivable from it. In contemporary economics, utility is often described as expected satisfaction, which may differ from the actual satisfaction experienced—it can be greater than, equal to, or lesser than the real satisfaction obtained from consuming the product.

2.2 Concept of 'Utility'

Meaning

Utility is meant to the ability of a commodity or service to fulfil human wants or desires.

Definition

- **Prof. W.S. Jevons:** "Utility is the ability or capacity of a good to satisfy human wants."

- **Prof. Alfred Marshall:** "The want-satisfying quality of a commodity is called its utility."

Utility differs from usefulness or morality; even harmful goods like cigarettes may possess utility if they satisfy a want.

Characteristics of Utility

1. **Utility has not any Moral or Ethical Connotation**

A commodity provides utility regardless of whether it serves for any social purpose or not. To quote for an example, a knife serves as utility for a housewife in cooking but also renders utility for someone intending to commit harm. Utility is purely about an ability to satisfy a want, not about the moral value of the act.

2. **Utility is Psychological**

The utility of a good purely depends on the consumer's perception of its ability to satisfy a particular want.

3. **Utility and Usefulness are not the same**

Utility is about satisfying a want, whereas usefulness relates to the inherent function of a commodity. A commodity may provide utility even if it is harmful or undesirable. For example, cigarettes or alcohol have utility for consumers despite being injurious to health. Demand depends on utility rather than usefulness.

4. **Utility Cannot Be Measured Objectively**

Since utility is subjective and depends on individual perception, it cannot be expressed precisely in numerical terms. It cannot be measured directly or cardinally. Although Professor Marshall assumed cardinal measurement in his demand analysis, such measurement is not realistically feasible.

5. **Utility Is Determined by the Intensity of Desire**

The degree of utility is influenced by the intensity of the consumer's desire. An unsatisfied, strong want leads to high utility from a commodity. As consumption continues, the utility derived from additional units tends to decrease. This phenomenon is referred to as diminishing marginal utility.

6. **Utility is Distinct from Pleasure**

A certain commodity may provide utility without generating pleasure.

Utility is Different from Satisfaction

Although related, utility and satisfaction are not identical. Utility refers to the potential of a good to satisfy a want, while satisfaction is the actual fulfilment or experience of the consumer when the want is met.

Types of Utility

Type of Utility	Meaning	Example
Form Utility	Created by changing the form of a product	Wheat to flour
Place Utility	Created by transporting goods to places where they are needed	Apples from Himachal to Chennai
Time Utility	Created by storing goods for future use	Cold storage of fruits
Service Utility	Created by providing services	Teaching, banking

Different Types of Utility

In economics, production essentially refers to the act of generating utility. Utility can be created in different forms based on how goods and services are altered or delivered to consumers. The main types of utility include:

1. **Form Utility**

Form utility is created when the physical form or shape of a product is changed to make it more useful or desirable. Form utility arises when the shape or structure of a product is modified to increase its usefulness or appeal. This typically occurs through manufacturing or processing. For example, turning wood into furniture or refining steel into a cabinet generates form utility. Essentially, it is the utility added to raw materials through production.

2. **Place Utility**

Place utility arises when the goods are being made available at locations convenient for consumers. Transporting goods from factories to marketplaces or moving agricultural produce from farms to urban centres enhances their utility. For example, apples from Kashmir fetch higher prices in Pune than in Srinagar due to the added value of making them available where they are scarce. Place utility is primarily created through marketing, retail distribution, transportation, and services such as fisheries and mining.

3. **Time Utility**

Time utility is generated when goods are stored, maintained, or made available. For instance, storing food grains during a bumper harvest and selling them later during scarcity generates time utility, allowing traders to meet demand when the product is most valuable. Trading and warehousing are key activities in generating time utility, as the availability of goods at the right time increases their usefulness.

4. **Service Utility**

Service utility is generated through the provision of professional or personal services that satisfy consumer needs. Professions such as doctors, lawyers, teachers, bankers, and actors create utility by offering expertise, assistance, or entertainment. Unlike goods, service utility is intangible and derives from the experience or benefit provided to the consumer.

2.3 Approaches to Utility Analysis

Cardinal Approach

- Alfred Marshall introduced this concept.
- Assumes utility is measurable in cardinal numbers (utils).
- The concepts of marginal utility and total utility are fundamental in economics.

Ordinal Approach

- Developed by Hicks and Allen.
- Assumes utility cannot be measured, but preferences can be **ranked**.
- Uses indifference curves.

2.4 The law of diminishing marginal utility explains a key idea in consumer behaviour:

As a person consumes more and more units of the same good, the added satisfaction they get from each new unit tends to fall. In other words, the first unit usually brings the most enjoyment, and each additional unit provides progressively less extra pleasure or benefit.

This idea was originally introduced by the German economist H. Gossen in 1854 and was later improved and popularised by Alfred Marshall, who presented it in a clearer and more systematic form. "The extra satisfaction a person obtains from acquiring more of a particular good decline as the quantity they already possess increases."

Law Based on Three Fundamental Facts

This law is based on three key assumptions, outlined below:

Limited Satisfaction of Individual Wants

Although human wants in general are endless, each individual want can be fulfilled. As a person consumes more units of a particular good, their satisfaction from additional units diminishes. Ultimately, a point is reached where consuming more of that good provides no further satisfaction.

Imperfect Substitutability of Goods

Different goods satisfy different needs and cannot perfectly replace one another. Therefore, as a consumer uses more units of the same good, the satisfaction obtained tends to decline.

Constant Marginal Utility of Money

It is assumed that the usefulness or satisfaction a consumer gets from each unit of money stays the same during the entire consumption process, given their existing level of wealth. This idea supports the law by acknowledging that human wants differ in intensity. People value different goods differently—sometimes they are willing to pay more for certain items and much less for others. This difference in willingness to pay is largely shaped by two main factors:

(1) the intensity of the consumer's preference for the good, and

(2) The amount of that good the consumer already owns

The willingness to pay for an item also depends on how much of that good a person already has. The more units they possess, the less additional value or satisfaction they expect from acquiring another one.

In simple terms, as a person consumes larger amounts of a specific good, their desire for more units slowly decreases. Consequently, the satisfaction declines.

Statement:

When a consumer keeps using extra units of a product, the additional satisfaction, or marginal utility, derived from each new unit diminishes, all other factors becoming constant.

Assumptions

1. Consumer's taste and preferences remain constant.
2. Units of commodity are identical.
3. Consumption is continuous.
4. Utility is measurable.

Diagram:

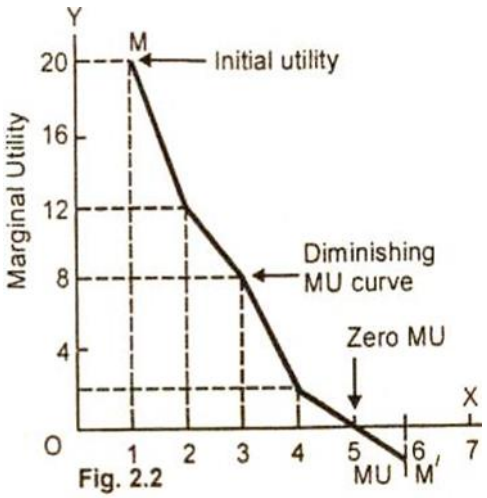

Fig. 2.2

A downward-sloping MU curve showing MU decreasing with each additional unit.

Example (Indian Context): Drinking cups of tea—first cup gives high satisfaction; the fifth cup may bring little or no satisfaction.

Exceptions/ Limitations to Law of Diminishing Marginal Utility:

There are few exceptions or limitations that exist in law of diminishing utility.

(i) **Case of alcoholic beverage**: Consumption of liquor challenges the low for a short period. The more a person drinks, the more likes it. However, this is truer only initially. A stage comes when a drunkard too starts taking less and less liquor and eventually stops it.

(ii) **Rare collection**: If there are only two diamonds in the world, the possession of 2nd diamond will push up the marginal utility.

(iii) **Application to money**: The law equally applicable in the case of money. It is an acceptable fact that more money the man has, the greedier he becomes to get some additional units of it. However, the truth is that the marginal utility of money declines with richness but never falls to zero.

It is to be accepted that law of diminishing utility, like any other laws of Economics, is simply a statement of tendency. It holds good if other factors become constant.

2.5 Consumer Surplus

Alfred Marshall introduced the idea of *consumer surplus* to explain the benefit consumers receive when they pay less for a product than what they are actually willing to pay. Because of the Law of Diminishing Marginal Utility, the satisfaction gained from a good often exceeds its market price. In simple terms, consumer surplus represents the extra utility or benefit a buyer enjoys over and above the amount spent on the good.

Prof. Taussig described consumer surplus as the difference between the highest price a buyer is willing to offer and the price they ultimately pay. For example, if a person is ready to pay ₹50 for a movie ticket but buys it for only ₹42, they enjoy a surplus of ₹8. This “bonus” reflects the additional benefit the consumer receives because they value the product more than its actual market price.

Hence, consumer’s surplus can be expressed as:

$$\text{Consumer's Surplus} = \text{Total Utility (TU)} - (\text{Quantity Purchased} \times \text{Market Price})$$

In essence, it measures the **excess satisfaction** a consumer receives .

Formula for ascertaining consumer surplus

Consumer Surplus = Willingness to pay – Actual price paid

Diagram:

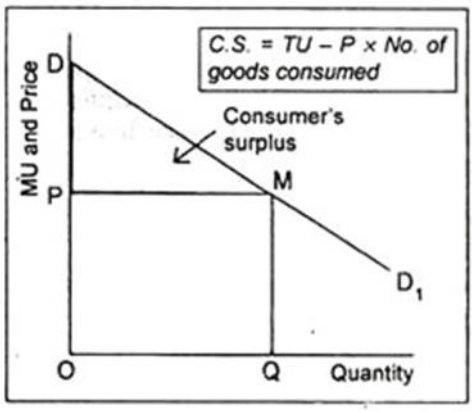

Fig. 2.14: Consumer's Surplus

Demand curve above the price line, shaded area shows surplus.

Importance of Consumer's Surplus

Although the concept of consumer's surplus involves certain limitations, it still holds considerable theoretical and practical significance in economics.

(i) Theoretical Importance

The concept of consumer's surplus helps differentiate between **value-in-use** and **value-in-exchange.**A product's usefulness determines its value-in-use, while its market price reflects its value-in-exchange. Thus, when consumer's surplus is considered, it reveals that, these two values may differ.

In addition, this concept assists in comparing welfare levels among different groups. For instance, people in urban areas often experience greater consumer's surplus in terms of access to entertainment, education, and facilities than those in rural regions. Marshall referred to such advantages as benefits derived from conjunctural circumstances.

(ii) Practical Importance

From a practical standpoint, consumer's surplus has several applications:

Fiscal Policy

A finance minister can use this concept while framing taxation policies. When a tax is imposed on a product, its price rises and the consumer's surplus decreases. Therefore, the policymaker must balance between the reduction in surplus and the gain in government revenue. A good tax policy is one that minimizes loss in consumer welfare while maximizing revenue collection.

Subsidies and Bounties

In the case of subsidies or grants, the opposite effect occurs — consumer's surplus increases as the price of goods falls.

Monopoly Pricing

A monopolist also takes consumer surplus into account when deciding the price of a product. If the price is set too high, the consumer's level of satisfaction decreases, leading to a reduction in the overall surplus.

Hence, the monopolist maintains prices at a level that ensures continued consumer benefit and loyalty.

International Trade

This idea also helps measure the gains from international trade, as consumers often purchase imported goods at prices lower than the value they place on them.**Public Projects**

Policymakers can use consumer's surplus to evaluate the social benefits of public works such as roads, bridges, and parks. It helps determine whether such projects enhance overall public welfare.

Criticism or Limitations of Consumer's Surplus

Despite its usefulness, the consumer's surplus has faced several criticisms, primarily due to difficulties in measurement and unrealistic assumptions.

An Imaginary Concept

Critics argue that consumer's surplus is hypothetical and lacks real-world existence. It depends on an imagined willingness to pay, which cannot be verified or quantified. Thus, it remains a theoretical abstraction rather than a measurable fact.

Difficult to Measure

Since utility is subjective, and also varies among person, measuring total utility accurately is impossible. Economists like Hicks and Allen had pointed out that, utility being a psychological experience, cannot be precisely determined.

Not Applicable to Substitute Goods

The concept fails when close substitutes exist. If alternative goods are available, the consumer's willingness to pay for any one product changes. Hence, the surplus derived from one good cannot be measured independently of its substitutes or complements. For example, a pen's utility can only be fully appreciated when ink is available.

Marginal Utility derived from Money is not constant

Marshall is of assumption that the marginal utility of money remains constant is unrealistic. In reality, as a consumer's income changes, the value they attach to each unit of money also changes, affecting the measurement of surplus.

Exhaustion of Surplus Utility

Some critics believe that if consumers were aware of such a surplus, they would continue purchasing until the surplus vanished. However, this is not true since consumers must balance their spending across various goods, not just maximize surplus on one item.

Inapplicable to Necessities

For essential goods like water or food, consumer's surplus becomes immeasurable.

2.6 Consumer Equilibrium

Cardinal Utility (also known as Law of Equi-Marginal Utility)

A consumer is said to be in equilibrium when they obtain the highest possible satisfaction from their available income, considering the prevailing prices of goods and services.

In Cardinal Approach

Consumer's equilibrium is reached when:

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y} = MU_m$$

Where,

- MU_x, MU_y are marginal utilities of goods X and Y,
- P_x, P_y are their prices,
- MU_m is the marginal utility of money.

Law of Equi-Marginal Utility

The Law of Equi-Marginal Utility is an important principle in economics. Human wants are endless, while the means or resources available to satisfy their wants are limited. Therefore, individuals must rank their wants and allocate their limited income in a manner that provides the greatest satisfaction. A rational consumer always aims to utilize their money efficiently to gain the maximum total utility possible.

Explanation of the Law

To achieve maximum satisfaction from a limited income, a consumer compares marginal utility obtained from every rupee spent on different goods. If spending one more rupee on one good provides more satisfaction than spending it on another, the consumer will reallocate expenditure from the latter to the former.

This process continues till the marginal utility of last rupee spent on each commodity becomes equal. In brief, the consumer substitutes the consumption of goods with a higher marginal utility compare to those with lower marginal utility, until equilibrium is reached.

Illustration

Let us assume, a consumer has ₹7 which is to be spent on two goods — apples and oranges. If ₹4 is spent on apples and ₹3 on oranges, the marginal utility (MU) of the 4th apple is 2, while that of the 3rd orange is 6.

Since, marginal utility of oranges is greater, consumer will reduce spending on apples and buy more oranges. Suppose a consumer reallocates the expenditure — purchasing 4 oranges and 3 apples. Now, marginal utility of both goods becomes equal (MU = 4).

Total utility derived is:

For 4 oranges: 10 + 8 + 6 + 4 = 28

For 3 apples: 8 + 6 + 4 = 18

Thus, Total Utility = 46

Limitations of Law of Equi marginal Utility

Like other economic principles, this law operates under certain assumptions and is not free from limitations in real-life situations.

Ignorance of Consumer

If consumer is unaware of the relative utility of goods, or acts out of habit, custom, or impulse, they may misallocate their resources. Lack of knowledge prevents the equalization of marginal utilities, resulting in less than maximum satisfaction.

Inefficient Organisation of Resources

In the case of businesses, if an entrepreneur or manager fails to utilize land, labour, and capital efficiently, they may not achieve the most profitable outcome. Poor management leads to unequal returns from different resources, violating principle of equal marginal utility.

Unlimited Resources

It is not applicable when resources are abundant or free, such as natural resources like air or sunlight. When resources are unlimited, no need to take decisions about how to allocate income or resources.

Influence of Custom and Fashion

Consumers often follow social customs, traditions, or fashion trends. In such cases, they continue purchasing certain goods regardless of diminishing satisfaction or rising prices. For example, spending on fashionable clothing or addictive substances does not follow the rational rule of substitution.

Frequent changes in price

When prices of goods fluctuate frequently, it becomes difficult for any consumer to adjust their spending pattern to maintain equal marginal utilities. Sudden changes in prices disturb the balance necessary for achieving maximum satisfaction.

Conclusion

This law is a cornerstone to consumer behaviour analysis. It explains how a rational consumer distributes limited income between various goods to achieve the greatest satisfaction. However, its application depends on consumer's awareness, stability of prices, and rational decision-making.

2.7 Indifference Curve Analysis

- **Indifference Curve**: Represents combinations of goods giving equal satisfaction.
- **Marginal Rate of Substitution (MRS)**: It is a Rate which a consumer is desire to substitute one good with another without compromising total utility.
- **Properties**: Downward sloping, convex to the origin, do not intersect.

Ordinal Utility Approach and Indifference Curve Analysis

Modern economists have moved away from the cardinal measurement of utility, which was a key feature of earlier economic theories. They argue that utility is a psychological and subjective concept and could not be measured in exact numerical terms. Since

satisfaction differs individually and based on situation, it is impossible to assign specific quantitative values to it.

Economists suggested that, rather than measuring satisfaction in exact units, consumers can simply rank their preferences in order of choice. This gave rise to the Ordinal Utility Approach, which focuses on the order of preferences rather than the precise magnitude of satisfaction.

Explanation of the Ordinal Utility Approach

Under this approach, a consumer is assumed to be capable of ordering or ranking different bundles of goods and services according to the satisfaction each one provides. Instead of measuring utility numerically, the consumer simply indicates which combinations are preferred, less preferred, or equally preferred**.** He may prefer apples to bananas; or

He may prefer bananas to apples; or

He may be indifferent between apples and bananas, meaning both give him equal satisfaction.

Meaning of the Curve

An Indifference Curve (IC) is a graphical representation of different combinations of two goods that offer a consumer the same level of satisfaction. It shows the trade-offs a consumer is willing to make—how much of one good they would sacrifice to obtain more of another—while keeping their overall utility unchanged. Every point on the curve reflects equal satisfaction, meaning that moving from one point to another on the same curve does not alter total utility.

Definition

An indifference curve depicts various pairs of two goods that provide the consumer with identical levels of satisfaction. It illustrates the consumer's preferences by showing how one good can substitute for another without changing total utility.

Illustration through an Indifference Schedule

An Indifference Schedule is a table that presents several combinations of two goods that yield the same satisfaction to the consumer. Since each combination gives equal utility, the consumer has no preference among them. For instance, different bundles of apples and bananas may offer the same level of satisfaction. When these combinations are plotted on a graph, they form an indifference curve.

Combination	Apples (units)	Bananas (units)
P	1.	15

Q	2.	10
R	3.	6
S	4.	3
T	5.	1

The above schedule reveals how consumer is indifferent toward all five combinations of fruits. For instance, combination P (1A + 15B) provides satisfaction

Q (2A + 10B), R (3A + 6B), S (4A + 3B), and T (5A + 1B).

Graphical Representation :

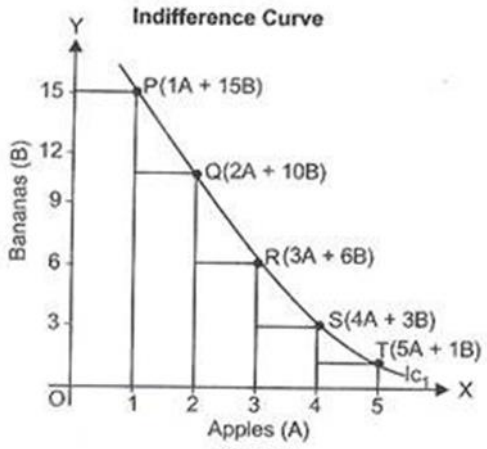

Fig. 2.4

Representing these combinations (P, Q, R, S, and T), we obtain a smooth, downward-sloping curve is called as Indifference Curve (IC_1).

- On the X-axis, we measure Apples (A).
- On the Y-axis, we measure Bananas (B).

Each point—P, Q, R, S, and T—represents a specific combination of goods listed in the Indifference Schedule. When these points are connected, they form the Indifference Curve (IC_1), which shows all combinations of apples and bananas that provide the same level of satisfaction. Every point on IC_1 delivers equal utility, meaning the consumer has no preference between these bundles. Shifting from one point to another along the curve does not change the consumer's total satisfaction. Together, these combinations form an *Indifference Set*—a collection of bundles of two goods that give the consumer identical satisfaction levels.

Marginal Rate of Substitution (MRS)

The Marginal Rate of Substitution (MRS) measures the rate at which a consumer is willing to replace one good with another while keeping their satisfaction constant. It represents the number of units of one good a consumer is ready to give up in order to gain an additional unit of another good without changing their overall utility.

For instance, when comparing apples (A) and bananas (B), the MRS of A for B indicates how many bananas a consumer is willing to sacrifice to obtain one more apple while remaining on the same indifference curve.

$$\text{MRS}_{AB} = \frac{\text{Units of Banana (B) given up}}{\text{Units of Apple (A) gained}} = \frac{\Delta B}{\Delta A}$$

Assumptions Underlying Indifference Curve Analysis

1. Two Commodities

The consumer buys only two goods—A and B. Their income is fixed and is entirely spent on these goods. The prices of both products remain constant.

2. Non-Satiety (More is Better)

1. **Incomplete Satisfaction**
   A consumer never attains complete satisfaction. They always prefer larger quantities of both goods and aim for higher indifference curves, which represent greater overall utility.
2. **Ordinal Utility**
   Utility cannot be measured in exact numbers. Instead, a consumer can rank different combinations of goods in order of preference—first, second, third, and so on—based on the satisfaction each bundle provides.
3. **Diminishing Marginal Rate of Substitution (DMRS)**
   When a consumer exchanges one good for another, the quantity of the second good they are willing to give up decreases gradually. This decreasing willingness causes the Marginal Rate of Substitution to decline, resulting in an indifference curve that is convex toward the origin.
4. **Rational Consumer Behaviour**
   A consumer is considered rational when they aim to maximize total satisfaction by allocating their limited income efficiently among the available goods.

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2.8 Conclusion

Utility theory explains the rationale behind consumer choices, providing tools to predict market demand and policy outcomes. The shift from cardinal to ordinal analysis marks a significant development in microeconomics.

Check Your Progress

1. What do you mean by utility?
2. What is Consumer Surplus?
3. Explain about Consumer's Equilibrium.
4. Define indifference curve. Also explain its key properties.
5. What is meant by Marginal Rate of Substitution (MRS)?
6. Explain the reasons for indifference curves being convexed to the origin?

Suggested Reading

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Unit III – Demand and Supply Analysis

Structure

Overview

1. Demand

1.1 Concept and Definition of Demand

1.2 Law of Underlying Assumptions

2. Supply and Production

2.1 Concept and Definition of Supply

2.2 Law of Supply

2.3 Factors Affecting Production

2.4 Production Function and Its Meaning

2.5 Law of Variable Proportions

2.6 Law of Returns to Scale

1.1 Meaning

Demand
Demand represents the quantity of a good or service that consumers are both willing and able to buy at different prices over a certain period. It captures not only the desire to purchase but also the ability to pay for the good.

Definitions

- **Prof. Benham:** Demand for a good at a given price is the quantity that will be bought per unit of time at that price.
- **Marshall:** The quantity demanded is the amount of a commodity that consumers are ready to purchase at a specific price.

Key Elements

I. Desire to purchase.

II. Ability to pay.

III. Willingness to pay.

IV. Specified price and period.

1.2Law of Demand

ThLaw of Demand

The Law of Demand states that, all else being equal (ceteris paribus), there is an inverse relationship between the price of a good and the quantity demanded. As the price rises, the quantity demanded falls, and as the price falls, the quantity demanded rises.

Demand Schedule

Price (₹)	Quantity Demanded (Units)
10.	50
20.	40
30.	30
40.	20
50.	10

Demand Curve

Graphically, the demand curve slopes downward from left to right, illustrating the inverse relationship between a good's price and the quantity demanded—higher prices lead to lower demand, while lower prices encourage greater demand.

Assumptions of Law

1. Consumer income remains constant.
2. Tastes and preferences are unchanged.
3. Prices of related goods remain the same.
4. No new substitutes are introduced.
5. No change in population.
6. Consumers act rationally.

1.3. Exceptions

Exceptions to the Law of Demand

1. **Giffen Goods:** These are a type of inferior good for which demand increases as the price rises. An example is coarse rice among low-income households.
2. **Veblen or Prestige Goods:** High-priced items that signal status, such as diamonds or luxury cars, may see higher demand as their price increases.
3. **Expectations of Future Prices:** If consumers anticipate that prices will rise in the future, they may purchase more now, even at higher prices.
4. **Ignorance Effect:** Consumers might not be aware of cheaper alternatives, leading them to buy at higher prices.
5. **Necessities:** Essential goods like medicines, salt, or milk maintain relatively stable demand regardless of price changes.
6. **Speculative Markets:** People may purchase more of a good in expectation of further price increases.

Elasticity of Demand
Elasticity of demand measures how sensitive the quantity demanded of a good is to changes in economic factors, such as its price, consumer income, the prices of related goods, or marketing and promotional efforts.

The key types of elasticity, along with their formulas, interpretations, methods of calculation, determining factors, and practical applications, are discussed below.

- **Elastic Demand (Ep > 1):** Small price change → large quantity change.
- **Inelastic Demand (Ep < 1):** Price change → small quantity change.
- **Unitary Elastic Demand (Ep = 1):** Equal proportionate change.
- **Perfectly Inelastic Demand (Ep = 0): Q**uantity doesn't respond to price
- **Perfectly Elastic Demand** (Ep = ∞): Any tiny price rise drops demand to zero)

Determinants

- Availability of substitutes (more substitutes → more elastic)
- Necessity vs luxury (necessities → inelastic)
- Share of income spent on good (large share → more elastic)
- Time period (longer run → more elastic)
- Definition of the market (broad goods → inelastic; narrow → elastic)
- Applications
- Pricing decisions (firms determine revenue effects of price changes)

- Tax incidence and welfare analysis

Cross Elasticity of Demand (Exy)

Cross Elasticity of Demand measures the responsiveness of the quantity demanded of one good (X) to changes in the price of another good (Y). It is calculated as:

$$e_c = \frac{\Delta Q_X}{\Delta P_Y} \cdot \frac{P_Y}{Q_X}$$

Here,

Ec = cross elasticity of demand

ΔQx = changes in quantity of X

ΔPy = change in price of Y

Qx = initial quantity of X

Py = initial price of Y

Interpretation

Ec > 0 → **Substitutes** (price rise in Y raises demand for X)

Ec < 0 → **Complements** (price rise in Y lowers demand for X)

Ec = 0 → **Independent goods**

Uses

- Product positioning and competitive strategy
- Anticipating effects of competitor pricing
- Policy (e.g., taxes on complementary goods)

2.1 Supply – Meaning and Definition

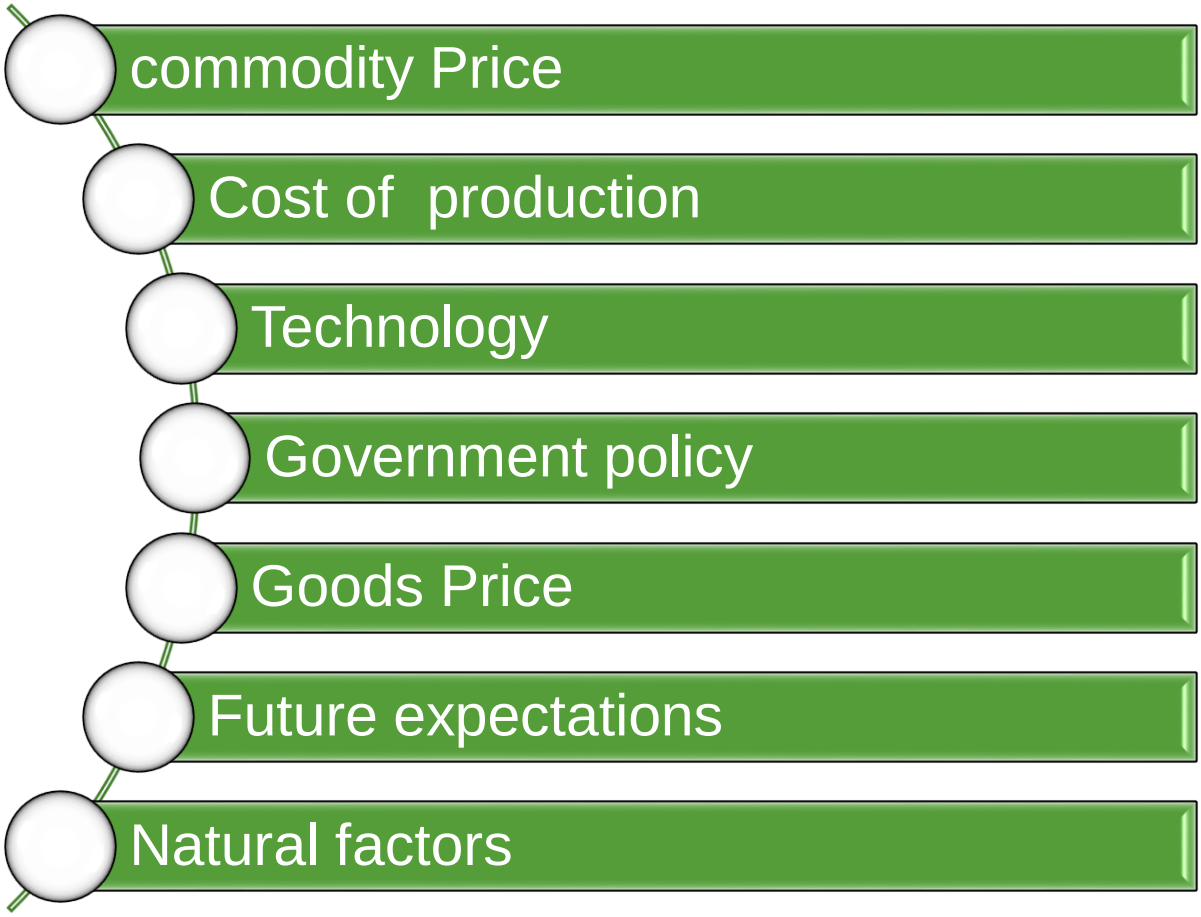
Supply

Supply is the quantity of a good or service that producers are both willing and able to offer for sale at various prices over a specific period.

Definition:

As Prof. Thomas states, "Supply is the quantity of a commodity that a producer is prepared to offer for sale in the market at various prices during a specific period."

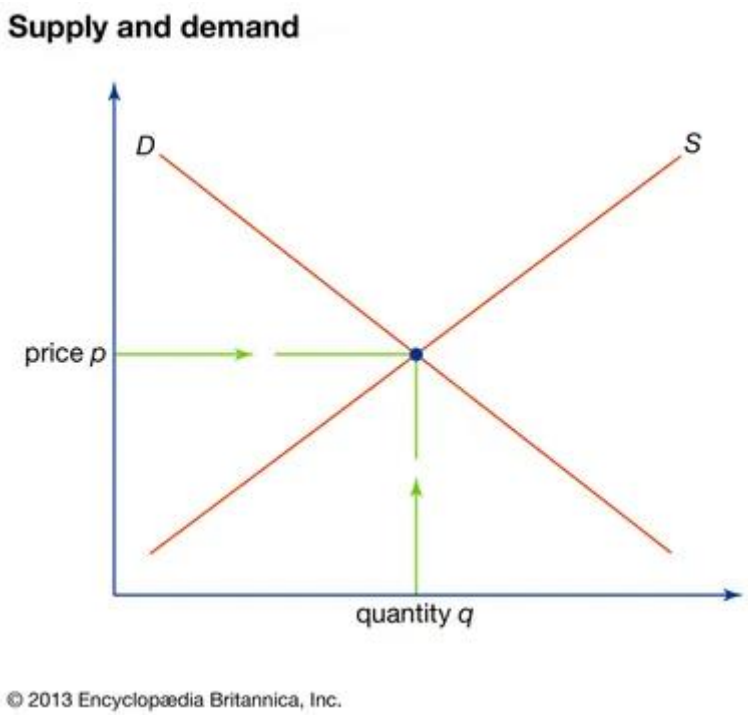
Factors Determining the Supply



Supply Curve

A supply curve is a graphical representation of the relationship between a good's price and the quantity that producers are willing and able to supply. On the graph, price is plotted on the vertical axis, while quantity supplied is shown on the horizontal axis.

Typically, the supply curve slopes upward from left to right, indicating a direct relationship: as the price of a good rises, producers are willing to supply a larger quantity.

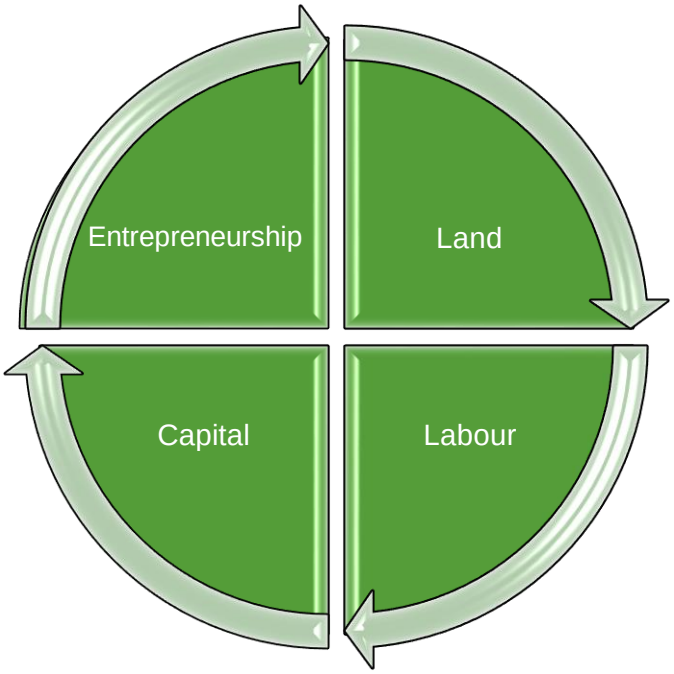


Assumptions

1. Technology remains constant.
2. Cost of factors unchanged.
3. No change in government policy.
4. Prices of other goods remain constant.
5. No change in climate or weather.

2.3 Factors of Production

Production requires **inputs** or **resources**, called **factors of production**. They are:



1. **Land:** All natural resources used in production (soil, minerals, forests, etc.).
2. **Labour:** Human effort, physical or mental, used in production.
3. **Capital:** Man-made resources like tools, machinery, and buildings.

Modern economists also include Knowledge and Technology as additional factors.

2.4 Production Function

Production Function
A production function describes the technical relationship between inputs (such as labor, capital, and raw materials) and the resulting output of goods or services.

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

Where:

- Q= Output
- L= Labour input
- K= Capital input

It shows how changes in input quantities affect output levels, keeping technology constant.

Types

1. Short-Run and Long-Run Production Functions

1. **Short-Run Production Function:** In the short run, at least one factor of production is fixed, meaning it cannot be changed immediately.
2. **Long-Run Production Function:** In the long run, all factors of production can be varied, allowing full flexibility in adjusting inputs.

2.5 Law of Variable Proportions (Law of Diminishing Returns)

Statement:
"The law of variable proportions states that as additional units of a variable input are combined with fixed inputs, total output initially increases at an increasing rate, then at a decreasing rate, and may eventually decline."

Meaning:
The Law of Variable Proportions explains how output changes when the quantity of one input is varied while keeping other inputs constant. Also called the **Law of Proportionality**, it is a fundamental concept in production theory, primarily applicable in the short run where some inputs cannot be adjusted immediately.

In simpler terms, when the quantity of a single input changes while others remain fixed, the ratio between variable and fixed inputs shifts, affecting output.

Example:
Consider a farmer growing wheat using land (fixed factor) and labor (variable factor). If the farmer has 5 hectares of land and employs one laborer, the land-to-labor ratio is 5:1. Adding a second laborer changes the ratio to 5:2. As more laborers are employed, total output increases, but not at a constant rat

Definitions by Economists

- **Benham:** "When the quantity of one input in a combination of factors is increased, after a certain point, both its marginal and average product begin to decline."
- **Samuelson:** "If some inputs are increased while others are kept fixed, total output initially rises, but beyond a certain point, the extra output from additional units of the variable input starts to diminish."
- **Leftwich:** "The law of variable proportions states that when the quantity of one input is increased in equal steps while other inputs remain constant, total output increases, but the additional output from each extra unit eventually decreases."

Assumptions

Constant Technology

The technology used in production remains unchanged. Any technological improvement would shift the production function upward and alter results.

Variable Factor Proportions

The law assumes that inputs can be combined in varying proportions. If the factors must always be used in fixed ratios, the law would not hold true.

Homogeneous Units of Variable Factor

Each unit of variable input (e.g., labour) is identical in efficiency, skill, and quality.

Short-Run Operation

The Law of Variable Proportions applies in the short run, where some inputs can be varied while at least one input remains fixed.

Explanation of the Law:
Take agriculture as an example, where land is the fixed input and labor is the variable input used to cultivate crops. Initially, as more laborers are added to the same land, total output rises at an increasing rate because the fixed land is used more efficiently. After a certain point, however, adding additional labor produces smaller increments in output, and eventually, total output may even decrease.

This pattern—changes in output caused by altering a single input while keeping others constant—illustrates the Law of Variable Proportions.

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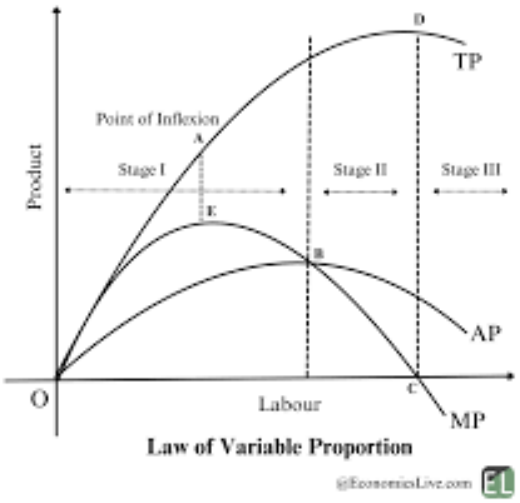
Phases of Law

Stage	Description	Output Behaviour
I	Increasing Returns	TP rises at increasing rate, MP rises
II	Diminishing Returns	TP rises at decreasing rate, MP falls
III	Negative Returns	TP declines, MP becomes negative

Diagrammatic Explanation



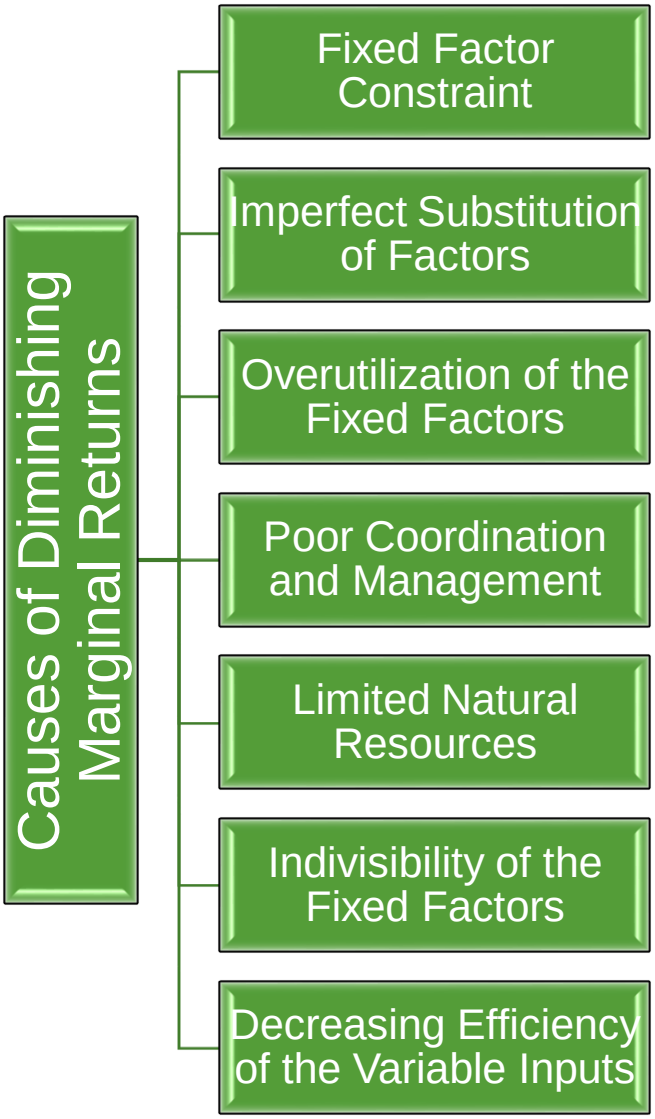
- **Total Product (TP) Curve:** Initially, total output rises rapidly, then grows more slowly, and may eventually decline.
- **Marginal Product (MP) Curve:** Marginal product first increases, reaches a peak, then begins to fall, and can even become negative.

Causes of Diminishing Returns

The Law of Diminishing Returns states that when additional units of a variable input (such as labor) are combined with fixed inputs (like land or machinery), total output initially rises but eventually increases at a decreasing rate.

Main Causes of Diminishing Returns:

1. **Fixed Inputs:** Limited availability of fixed factors restricts the efficiency of additional variable inputs.
2. **Overcrowding:** As more units of the variable input are added, they may overcrowd the fixed resources, reducing productivity.
3. **Inefficient Utilization:** Beyond a certain point, the variable input cannot be used as effectively, leading to smaller increments in output.
4. **Technical Limitations:** The production process itself may impose limits on how effectively additional inputs can contribute to output.



Imperfect Substitution of Factors

In production, one factor cannot always perfectly replace another. For instance, adding more labour cannot compensate for the limited availability of land or capital, resulting in declining efficiency.

Overutilization of the Fixed Factors

Causes of Diminishing Returns (Continued)

1. **Overutilization of Fixed Factors:**
   When additional units of a variable input are combined with the same fixed resources, the fixed factors become overused, causing inefficiency, wear and tear, and reduced productivity.

2. **Poor Coordination and Management:**
   Adding more workers or inputs beyond an optimal level makes it harder to coordinate and supervise activities effectively, lowering output per unit of input.
3. **Limited Natural Resources:**
   In industries like agriculture, natural resources such as soil fertility, rainfall, or sunlight are limited. Overusing these resources leads to declining productivity.
4. **Indivisibility of Fixed Factors:**
   Some fixed inputs, like machinery or buildings, cannot be divided or expanded proportionally. When large amounts of variable inputs are applied, efficiency declines.
5. **Decreasing Efficiency of Variable Inputs:**
   As more units of a variable input are added, each additional unit contributes less to output because the fixed factors cannot support the increased input efficiently.

Diminishing returns occur because fixed resources eventually limit the efficiency and effectiveness of additional variable inputs. Hence, after a certain stage, total output will start increasing at a diminishing rate.

Importance of the Law of Diminishing Returns

The Law of Diminishing Returns is important both in economic theory and practical decision-making. Its significance can be summarized as follows:

1. **Foundation of Production Theory:**
   The law forms the basis of production theory by explaining how output changes when the quantity of one input is increased while other inputs are kept constant. It also helps identify the different stages of production: increasing returns, diminishing returns, and negative returns.
2. **Efficient Use of Resources:**
   It helps producers use resources efficiently. By showing the optimum level of input use, the law indicates the point beyond which adding more inputs reduces productivity, helping firms avoid resource wastage.

Helps in Determining the Optimum Combination of Inputs

The law aids in deciding the most profitable combination of fixed and variable factors to achieve maximum output at minimum cost.

Basis for Agricultural Analysis

The law is especially relevant in agriculture, where land remains fixed. It shows why output cannot rise indefinitely by simply adding more labour and capital to a limited plot of land.

Guides Industrial Expansion

It helps in determining the point at which adding more labour or machinery in an industrial unit becomes unprofitable, encouraging firms to expand capacity only when necessary.

Determines Factor Demand

The decline in marginal productivity guides producers in deciding how much of each factor, like labour or capital, should be employed.

Policy Implications

For governments and planners, the law highlights the importance of technological improvements, better agricultural methods, and industrial diversification to counteract declining productivity.

10. Law of Returns to Scale

Meaning:
The Law of Returns to Scale examines how output changes when all inputs in the production process are increased proportionally in the long run. Unlike the Law of Variable Proportions, which applies in the short run with at least one fixed input, this law considers situations where all factors—land, labor, and capital—can be varied.

In simple terms, it studies how total output responds when the scale of production is expanded by increasing all inputs simultaneously in a fixed ratio.

Definition

Koutsoyiannis: "Returns to scale refer to the changes in output as all factors change by the same proportion."

Marshall: "When all factors of production are increased in a given proportion, the resulting output may rise in the same proportion, in a greater proportion, or in a smaller proportion."

Types of Returns to Scale

Classification of the Law of Returns to Scale

1. **Increasing Returns to Scale**
   This occurs when all inputs are increased proportionally, and output grows by an even larger proportion.

Example: If all inputs are doubled and output more than doubles, it demonstrates increasing returns to scale.

Causes:

- Better division of labor and increased specialization
- Improved coordination and efficiency in production
- Economies of scale, leading to lower average costs with larger production

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2. **Constant Returns to Scale**
   Constant Returns to Scale occur when all inputs are increased by a certain proportion, and output increases by the same proportion.

Example: If all inputs are doubled and output also doubles.

Causes: The advantages of large-scale production are balanced by challenges such as coordination difficulties.

Result: Productivity remains unchanged, and the average cost per unit stays constant.

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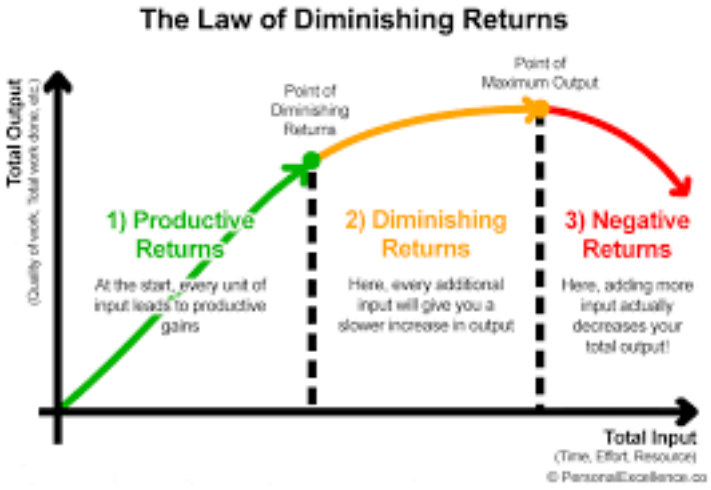
3. **Decreasing (or Diminishing) Returns to Scale**
   Decreasing Returns to Scale occur when all inputs are increased by a certain proportion, but output rises by a smaller proportion.

Example: If all inputs are doubled, but output increases by less than twice the original amount.

Causes:

- Managerial inefficiency and communication problems
- Difficulties in coordination and supervision
- Diseconomies of scale, leading to higher average costs with increased production

Diagrammatic Representation:
These three cases can be illustrated with a production curve showing output on the vertical axis and input scale on the horizontal axis, with curves reflecting increasing, constant, and decreasing returns.



If we plot the proportionate change in inputs and outputs on a graph:

The curve first rises sharply (increasing returns),

Then becomes linear (constant returns), and

Finally flattens (diminishing returns).

Causes of Different Return to Scale

Economies of Scale

As production grows, internal and external economies—like bulk purchasing, improved technology, and skilled labour—help lower costs and enhance output efficiency.

Managerial Efficiency

Better supervision, coordination, and organization lead to higher productivity in the initial stages, but inefficiencies may arise as the firm grows too large.

Fixed Factors and Indivisibilities

Some factors (like machinery or management) cannot be perfectly scaled up, leading to inefficiencies at very large scales.

Technical Factors

Use of advanced machinery and modern technology may initially lead to increasing returns, but later diminishing returns set in due to operational limits.

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Unit – IV: Cost and Revenue Analysis

Structure

Overview

In the business world, effective decision-making relies on a clear understanding of costs and revenues. Whether a firm is producing goods or offering services, it needs to carefully manage its costs to stay competitive and monitor revenues to maintain profitability. This unit explores the various types of costs, their behavior in the short run and long run, and the fundamental revenue concepts in economics. It also introduces the **break-even point**, a key tool for identifying the level of output at which a business starts to make a profit. Understanding these concepts is crucial not only for learning economic theory but also for making well-informed managerial decisions.

1. Meaning and Definition of Cost

Cost refers to the total monetary expenditure a firm incurs in producing and selling its goods or services. It represents the value of resources such as labour, materials, capital, and land used in production.

In economics, **cost** encompasses not only the actual monetary expenditure but also the **opportunity cost**, which is the value of the next best alternative that is forgone. Costs are typically categorized into **explicit costs** and **implicit costs**.

Explicit costs are actual cash payments made for resources, while **implicit costs** represent the value of resources owned by the producer that are employed in production.

According to Oxford Dictionary of Business:

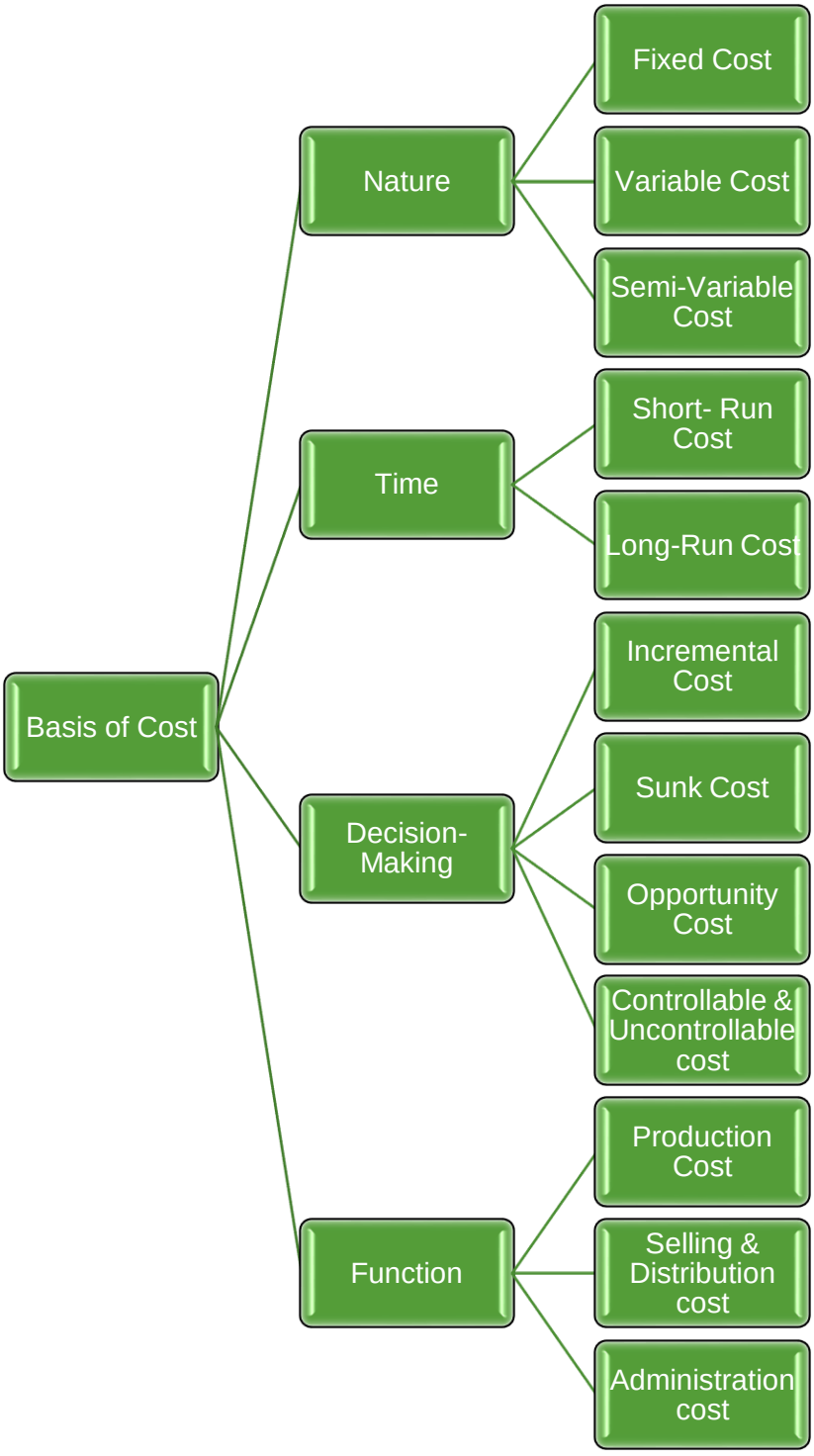
"Cost is the amount of expenditure, actual or notional, incurred on or attributable to a specified thing or activity."

2. Types of Costs

Why Cost Classification is Important?

- Helps in pricing decisions.
- Assists in profitability analysis.
- Guides budgeting and cost control.
- Aids in choosing between alternative production methods.

Costs can be classified on various bases as follows:



a) According to Nature

1. **Fixed Cost** – Costs which remain constant irrelevant of output (e.g., rent, insurance).

2. **. Variable Cost:**
   Variable costs are expenses that change directly with the level of output. Examples

include costs of raw materials, labor, and other inputs that increase as production rises and decrease when production falls.

3. **Semi-variable Cost** – Costs containing both fixed & variable elements (e.g., telephone charges).

b) According to Time

1. **Short-Run Costs** – Some factors are fixed and others variable.
2. **Long-Run Costs** – All factors become variable; firms can alter their scale of operation.

c) According to Decision-Making

1. **Incremental Cost** – Additional cost increse in activity or decision.
2. **Sunk Cost** – Past costs that cannot be recovered.
3. **Opportunity Cost** – Benefit forgone by choosing one alternative over another.
4. **Controllable and Uncontrollable Costs** – Costs that can or cannot be influenced by management decisions.

d) According to Function

1. **Production Cost** – Costs of manufacturing.
2. **Selling & Distribution Cost** – Related to marketing and delivery.
3. **Administrative Cost** – Related to managerial and office functions.
4. **Short-Run and Long-Run Cost Behaviour**

Meaning of Short-run

In the **short run**, at least one factor of production—such as capital, machinery, or plant size—remains fixed, while other inputs like labor and raw materials can be varied. Firms can increase output by using more variable inputs, but the overall scale of production cannot be changed.

Components of Short-Run Costs:

- **Fixed Costs (TFC):** Costs that remain constant regardless of the level of output, such as rent or machinery depreciation.
- **Variable Costs (TVC):** Costs that change directly with the level of output, like wages, raw materials, and utility expenses for production.

TC=TFC+TVCTC = TFC + TVCTC=TFC+TVC

a) Short-Run Cost Behaviour

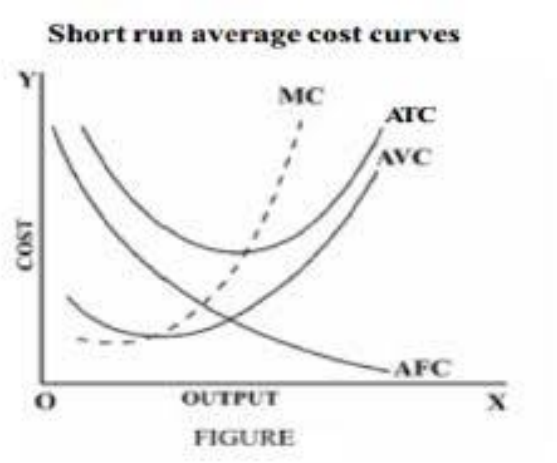
Output (Q)	TFC	TVC	TC	AFC	AVC	ATC	MC
0	100	0	100	-	-	-	-
1	100	50	150	100	50	150	50
2	100	90	190	50	45	95	40
3	100	120	220	33.3	40	73.3	30
4	100	140	240	25	35	60	20
5	100	165	265	20	33	53	25
6	100	200	300	16.7	33.3	50	35
7	100	250	350	14.3	35.7	50	50

1. Total Fixed Cost (TFC): Remains constant irrespective of output.
2. Total Variable Cost (TVC): Increases with increase in output.
3. Total Cost (TC): The sum of fixed & variable costs (TC = TFC + TVC).

Average & Marginal Costs:

- Average fixed Cost (AFC) = TFC / Output
- Average variable Cost (AVC) = TVC / Output

Diagram



AFC Curve: Downward-sloping, never touches the horizontal axis.

AVC & ATC Curves: U-shaped because of law of variable proportion.

The short-run cost curves are generally U-shaped because law of variable proportions.

Reasons for U-shape of AVC & ATC

Decreasing Phase: Increasing returns to the variable factor lower per-unit cost.

Increasing Phase:

Long-Run Cost Behaviour

Meaning of Long-run

In the **long run**, all factors of production are variable. Firms can modify plant size, adopt new technologies, and restructure their production processes. Because all inputs can be adjusted, there are no fixed costs in the long run—every cost is treated as variable.

Long-run Total Cost (LRTC)

TC incurred when a firm adjusts all inputs to produce a given level of output.

Long-run Average Cost (LAC)

- Also called the Planning Curve or Envelope Curve.
- Shows the minimum average cost at which any level of output can be produced provided all inputs are variable.

- Derived from various short-run average cost curves (SACs).

Diagram Explanation:

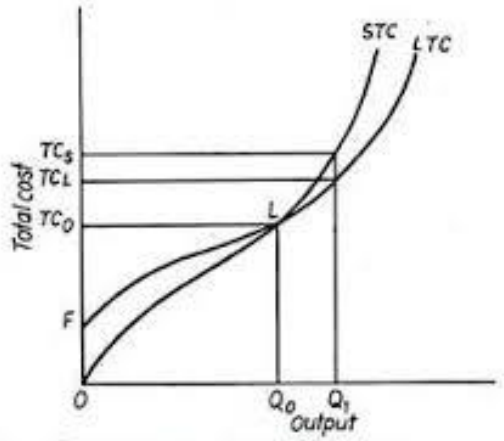


Figure 14.10 Long-run and short-run total cost curves

1. The Long-Run Average Cost (LAC) curve is typically U-shaped.
2. Each Short-Run Average Cost (SAC) curve is tangent to the LAC curve at the output level that is optimal for that particular plant size.
3. The LAC is called an envelope curve because it "wraps around" all the SAC curves.
4. The LAC is derived as the envelope of short-run cost curves and remains U-shaped due to the effects of economies and diseconomies of scale.
5. Economies of Scale (Reasons for Falling LAC in the Initial Phase):
6. In the initial phase of production expansion, the LAC declines because of factors that increase efficiency and lower per-unit costs, known as economies of scale.
7. **Technical Economies –** Specialisation of machinery and processes**.**
8. **Managerial Economies –** Specialised management reduces inefficiency**.**
9. **Purchasing Economies –** Bulk buying of raw materials reduces costs**.**
10. **Financial Economies –** Easier access to loans at lower interest rates**.**
11. **Marketing Economies –** Spreading marketing costs over larger output**.**

Diseconomies of Scale (Reasons for Rising LAC Beyond a Point)

1. **Managerial Inefficiency –** Difficulty in coordination as size grows.
2. **Communication Problems –** Slower decision-making in large organisations**.**
3. **Labour Problems –** Lower morale and productivity in very large firms**.**
4. **Supply Constraints –** Scarcity of certain inputs at high production levels**.**

Table – Economies vs Diseconomies of Scale

Economies of Scale	**Diseconomies of Scale**
Technical specialisation	Managerial complexity
Bulk purchasing	Communication breakdown
Better financing	Declining worker motivation
Specialised managers	Supply shortages

4. Revenue Concepts

In economics, revenue is the income a firm generates from the sale of its goods or services.

$$\text{Revenue} = \text{Price} \times \text{Quantity}$$

Types of Revenue

1. **(TR)**
   - Formula: $TR = P \times Q$
   - Example: Selling 100 units at ₹50 each → TR = ₹5,000
2. **Average Revenue (AR)**
   - Revenue per unit sold.
   - Formula: $AR = \frac{TR}{Q}$
   - Under perfect competition, AR = Price.

3. **(MR)**
    - Formula:

$$MR = \frac{\Delta TR}{\Delta Q}$$

Break-Even Analysis

Break-Even Analysis is an important tool in **cost–volume–profit (CVP) analysis**. It examines the relationship between a firm's costs, output, and profits, and determines the level of production or sales at which **total revenue equals total cost**—meaning the firm neither earns a profit nor incurs a loss. This level is called the **Break-Even Point (BEP)**.

At the BEP, a business covers all its costs, so total revenue exactly matches total cost, resulting in zero profit and zero loss.

Mathematical Condition:

Break-Even Point occurs when: Total Cost (TC)=Total Revenue (TR)\text{Break-Even Point occurs when: } \text{Total Cost (TC)} = \text{Total Revenue (TR)}Break-Even Point occurs when: Total Cost (TC)=Total Revenue (TR)

At this point, all **fixed and variable costs** are recovered. Any production beyond the BEP generates profit, while output below it results in a loss.

Definitions

- **CIMA:** "Break-even point is that level of activity at which total cost equals total sales revenue."
- **Prof. Howard and Brown:** "Break-even analysis is a system of analysis that determines the level of sales at which a company neither earns profit nor incurs loss."

Objectives of Break-Even Analysis

- To determine the **minimum output** required to avoid losses.
- To assist in **profit planning** and support **managerial decision-making**.
- To analyze the impact of changes in **costs, prices, or sales volume** on profits.
- To assess a firm's **margin of safety**.
- To serve as a tool for managerial control and budgeting.

Assumptions of Break-Even Analysis

- Fixed costs do not change within the relevant production range.
- Output equals sales, meaning no inventory changes.
- Analysis applies to a single product or a fixed sales mix.
- Production efficiency and technology remain unchanged.

Break-Even Point (BEP)

Break-Even Point (BEP)

The **Break-Even Point** is the level of sales at which **total revenue equals total cost**. It can be expressed in **units sold**, **sales value**, or as a **percentage of production capacity**.

Formulas:

- **Break-Even Point (Units):**

BEP (units)=Fixed CostSelling Price per Unit – Variable Cost per UnitBEP

This formula calculates the number of units that must be sold to cover all fixed and variable costs.

Graphical Representation

Break-Even Chart

A **break-even chart** visually represents the relationship between costs, revenue, and output. It includes:

- **Total Cost Line:** Begins at the level of fixed costs and rises as output increases.
- **Total Revenue Line:** Starts from the origin and rises with sales.
- **Break-Even Point (BEP):** The point where the **total cost** line intersects the **total revenue** line, indicating the level of output at which the firm neither earns a profit nor incurs a loss.

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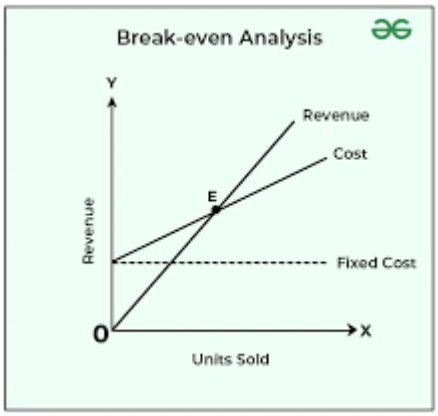

Uses of BEA

1. **Cost Control:** Helps evaluate how fixed and variable costs affect overall profitability.
2. **Decision-Making:** Aids in pricing, make-or-buy decisions, and determining production levels.
3. **Budgetary Control:** Helps in preparing flexible budgets**.**
4. **Evaluation of Alternatives:** Compares profitability under different cost and price conditions.

Advantages

1. Simple to understand and apply.
2. Provides the cost–volume–profit relationship.
3. Useful for forecasting profits.
4. Assists in managerial decision-making and performance evaluation.
5. Acts as a basis for setting prices and controlling costs.

Limitations

1. Assumes linear relationships between cost, revenue, and volume — not realistic in practice.
2. Ignores changes in price levels, production efficiency, and technology.
3. Not suitable for multi-product firms with changing sales mix.
4. Difficult to segregate costs into fixed and variable categories accurately.

5. Assumes all produced goods are sold — ignores stock changes.

Summary

- BEP = Fixed Cost / (Selling Price – Variable Cost).
- Above BEP → Profit, below BEP → Loss.
- It is a useful tool for decision-making, cost control, and budgeting but should be used with caution due to its assumptions.

6. Limitations of Cost and Revenue Analysis

1. Difficulty in measuring implicit and opportunity costs.
2. The assumption of perfect competition rarely exists.
3. Static analysis – ignores dynamic business conditions.
4. Assumes rational behaviour of producers and consumers.
5. Data limitations affect accuracy and reliability.

Check Your Progress:

1. Define cost and explain its components.
2. Distinguish between fixed & variable costs.
3. Explain the behaviour of short-run cost curves.
4. What are the differences between short-run and long-run costs?
5. Define total, average, and marginal revenue.
6. What is break-even analysis? Write its formula.
7. List out any three limitations of break-even analysis.
8. Define economies and diseconomies of scale.

Glossary

- **Cost:** Total expenditure incurred in production.

- **Fixed Cost:** Cost that not varies with output.
- **Variable Cost:** Cost that changes with production level.
- **Revenue:** Income earned out of sale of the goods & services.
- **Economies of Scale:** Cost advantages from increased production.
- **Diseconomies of Scale:** Rising costs from over-expansion.

Solutions for Check Your Progress

1. Cost is the total expenditure on production, including explicit and implicit expenses.
2. Fixed costs remain constant; variable costs change with output.
3. Short-run costs show U-shaped curves due to variable proportions.
4. Long-run costs allow adjustment of all inputs.
5. TR = Price × Quantity; AR = TR/Output; MR = ΔTR/ΔQ.
6. BEP = Fixed Cost / (Selling Price – Variable Cost).
7. Ignores external factors and assumes constant price and cost.
8. Economies of scale reduce cost per unit; diseconomies increase it.

Suggested Reading

1. Ahuja, H.L. – *Modern Microeconomics*, S. Chand & Co.
2. Jhingan, M.L. – *Microeconomic Theory*, Vrinda Publications.
3. Samuelson, P.A. & Nordhaus, W.D. – *Economics*, McGraw Hill.
4. Dwivedi, D.N. – *Managerial Economics*, Vikas Publishing.
5. Stonier and Hague – *A Textbook of Economic Theory*, Longman.

Unit – V: Market Structure Analysis

Structure

Overview

1. Meaning and Definition of Market
2. Basics of Markets
3. Types of Markets
4. Perfect Competition
5. Monopoly
6. Monopolistic Competition
7. Oligopoly

8. Check Your Progress
9. Let Us Sum Up
10. Glossary
11. Suggested Reading

Overview: Market – Basics and Types of Markets

- A market is a system or environment where buyers and sellers interact to exchange goods and services. Markets are essential for the economy as they help determine prices, allocate resources efficiently, and enable trade. They can be physical, such as local stores or stock exchanges, or virtual, like online platforms and e-commerce websites.
- Perfect Competition – Many sellers selling identical products with no control over price.
- Monopoly – Single seller dominating the market with no close substitutes.
- Monopolistic Competition – A market in which numerous sellers offer **differentiated products** and have **some control over prices**.
- Oligopoly – Few large sellers whose decisions influence one another; products may be similar or differentiated.

Understanding market types is essential for:

- Businesses to plan pricing, production, and marketing strategies.
- Policymakers to regulate markets and ensure consumer welfare.
- Students to grasp how competition and market forces shape the economy.

This unit explores the characteristics, advantages, and disadvantages of each market type, helping students understand how markets function and impact economic decisions.

Learning Objectives

By the end, learners will be able to:

1. Understand the concept and definition of a market.
2. Explain the basic features and functions of markets.

3. Identify and differentiate between types of markets.
4. Analyze characteristics, advantages, and disadvantages of different market structures:
5. Apply knowledge of market structures to real-world business scenarios.

1. Meaning and Definition of Market

A market is a place or platform where buyers and sellers come together to trade goods and services. It is not limited to a physical location; modern markets can also exist virtually. The primary purpose of a market is to facilitate trade by establishing prices and distributing resources efficiently.

Definitions:

- Marshall**:** "A market is a set of arrangements by which buyers and sellers are in touch with one another and goods are exchanged."
- H.L. Ahuja**:** "A market is a place where demand and supply of a commodity meet to determine its price."

Essential Features of Market:

Price Determination

Markets help to determine prices .

Efficient Allocation of Resources

Markets guide resources to their most valued use.

Facilitates Exchange

Provides a platform for trading goods and services.

Encourages Competition

Healthy competition promotes innovation and better quality products.

2. Basics of Markets

- Markets perform the function of allocating resources efficiently through price mechanisms.

- They provide information regarding demand, supply, and prices to producers and consumers.
- Markets can be classified based on competition level, geographical area, or nature of goods.

Functions of Markets

1. Facilitate exchange of goods and services.
2. Determine price through demand-supply interaction.
3. Encourage production and specialization.
4. Serve as a mechanism for risk-sharing and credit.

3. Types of Markets

Markets are primarily classified by **the degree of competition**:

1. Perfect Competition
2. Monopoly
3. Monopolistic Competition
4. Oligopoly

4. Perfect Competition

Perfect competition is a market structure where a large number of buyers and sellers trade **identical products**, there are **no barriers to entry or exit**, and **prices are determined entirely by the forces of demand and supply**.

Characteristics:

- **Large Number of Buyers and Sellers:** Individual buyers or sellers are too small to influence the market price.

Homogeneous Products **-** All products are identical and interchangeable.

Free Entry & Exit -

Perfect Knowledge –

Price Taker - Individual firms accept the market-determined price; they cannot influence it.

Advantages and Disadvantages of Perfect Market

Advantages	Disadvantages
Consumer Benefits: Lowest possible price due to competition	**Unrealistic Model:** Perfect competition rarely exists in reality
Resource Efficiency: Firms operate at minimum cost, leading to productive efficiency.	**No Product Differentiation:** Lack of variety may limit consumer choice.
No Exploitation: Sellers cannot manipulate prices to exploit consumers.	**Low Profit for Firms:** Competitive pressure keeps profits minimal.
Encourages Specialization:	**Limited Incentive for Innovation:** No rewards for developing new products.

Example: Agriculture markets for commodities like wheat, rice, or sugar.

5. Monopoly

Monopoly

Definition:
A **monopoly** is a market structure in which a single firm is the sole producer and seller of a product that has no close substitutes. This gives the firm complete control over both the **price** and the **quantity of output**.

Characteristics:

1. **Single Seller:** Only one firm dominates the entire market.
2. **Unique Product:** There are no close substitutes for the product.
3. **Price Maker:** The firm has the ability to set prices according to demand.
4. **Barriers to Entry:** Legal, financial, or technological obstacles prevent new firms from entering the market.
5. **High Market Power:** Monopoly can influence quantity, price, and terms of trade.

Advantages and Disadvantages of Monopoly market

Advantages	Disadvantages
Economies of Scale: Large-scale production reduces costs.	**Higher Prices:** Consumers pay more .

Stable Production: Monopoly ensures consistent supply, especially in essential sectors.	**Lower Product Variety:** Limited innovation leads to fewer choices.
Encourages Investment: Firms can invest in long-term projects without competitive pressure.	**Inefficiency:** No incentive to minimize cost or improve quality.
Standardization of Products: In some cases, monopoly ensures uniform quality and standards of products or services.	**Consumer Exploitation:** Market power may be misused.

Example: State electricity boards, water supply companies, or Indian Railways.

6. Monopolistic Competition

Meaning:

This market structure is called **Monopolistic Competition**. In it, **many firms sell products that are similar but not identical**. Each firm has some control over its prices, and **entry or exit from the market is relatively easy**.

Characteristics:

1. Large number of firms.
2. Product differentiation (quality, branding, packaging).
3. Free entry and exit.
4. Some control over price due to differentiation.
5. Heavy emphasis on advertising and marketing.

Advantages:

- Encourages product variety and innovation.
- Consumer choice increases.
- Firms earn short-run profits.

Disadvantages:

- Excessive expenditure on advertising.
- Allocative and productive inefficiency.
- Prices higher than perfect competition.

7. Oligopoly

Meaning:
An **oligopoly** is a market structure in which a **few large firms dominate an industry**, producing either **similar or differentiated products**. The firms' **pricing and output decisions are interdependent**, meaning the actions of one firm influence the others.

Characteristics:

1. Few dominant sellers.
2. High barriers to entry.
3. Mutual interdependence among firms.
4. Price rigidity; firms avoid price wars.
5. Possibility of collusion or cartels.

Advantages:

- Stability in price and output.
- leads to economies of scale.

Disadvantages:

- Risk of collusion and price-fixing.
- May reduce innovation due to lack of competitive pressure.

Table shows a comparison of various types of markets:

Feature	**Perfect Competition**	**Monopoly**	**Monopolistic Competition**	**Oligopoly**
Number of Sellers	Many	One	Many	Few

Feature	Perfect Competition	Monopoly	Monopolistic Competition	Oligopoly
Product Type	Homogeneous	Unique	Differentiated	Homogeneous/Differentiated
Price Control	None (Price taker)	High (Price maker)	Some	Interdependent
Entry/Exit	Free	Restricted	Free	Restricted
Example	Agricultural markets	Local electricity supply	Clothing brands	Automobiles

5. Conclusion

Markets are fundamental to the economy, and the type of market determines how goods are priced, how firms compete, and how consumers benefit.

- Perfect competition represents an ideal with maximum efficiency.
- Monopoly reflects real-world dominance in essential or high-investment sectors.
- Monopolistic competition ensures diversity and innovation.
- Oligopoly shows strategic interdependence among few large players.

Understanding market structures is crucial for business strategy, economic planning, and consumer awareness.

Check Your Progress

1. Define a market and list its key features.
2. Explain the function of markets in resource allocation.
3. Differentiate between perfect competition and monopoly.

4. What is monopolistic competition? List its characteristics.
5. Explain the concept of oligopoly and its advantages.
6. State the main disadvantages of monopoly and oligopoly.

Let Us Sum Up

- Monopolistic competition features product differentiation with many sellers.
- Oligopoly is a market with few dominant firms and interdependent pricing.

Answers to Check Your Progress

1. Market: Arrangement allowing buyers and sellers to interact for exchange of goods/services.
2. Functions: Price determination, resource allocation, risk-sharing, information provision.
3. **Perfect Competition:** Many sellers, homogeneous products, firms are price takers.

   Monopoly: Single seller, unique product, firm is a price maker.
4. **Monopolistic Competition:** Many sellers, differentiated products, use of advertising, and some control over price.
5. Oligopoly – few large firms, interdependent, stable prices, possibility of collusion.
6. Disadvantages of Monopoly – high prices, restricted output, inefficiency; Oligopoly – collusion risk, high prices, limited consumer choice.

Suggested Reading

1. Ahuja, H.L. – *Modern Microeconomics*, S. Chand & Co.
2. Marshall, A. – *Principles of Economics*, Macmillan.
3. Samuelson, P.A. & Nordhaus, W.D. – *Economics*, McGraw-Hill.
4. Jhingan, M.L. – *Microeconomic Theory*, Vrinda Publications.
5. Salvatore, D. – *Microeconomics: Theory and Applications*, Oxford University Press.

Economic Analysis I

Case Study

Unit – I

Case Study: Economics in Business Decision-Making

A small manufacturing company producing eco-friendly bags observed that rising raw material prices were reducing profits. The management decided to study consumer demand, pricing strategies, and government environmental policies before making business decisions. Economists in the company suggested using both microeconomic and macroeconomic analysis for planning future production.

Questions:

1. Distinguish between microeconomics and macroeconomics with reference to the case.
2. Explain how economics helps business firms in decision-making.
3. Discuss whether economics should be considered both a science and an art.

Economic Analysis I

Case Study

Unit – II

Case Study: Consumer Choice in Modern Markets

A supermarket introduced loyalty discounts and “buy one get one free” offers to attract customers. Consumers started purchasing products that gave them maximum satisfaction within their limited income. The company also studied customer preferences through online shopping data.

Questions:

1. Explain the concept of consumer equilibrium with reference to the case.
2. Discuss the role of utility analysis in understanding consumer behaviour.
3. How do modern businesses apply consumer behaviour theories in marketing strategies?

Economic Analysis I

Case Study

Unit – III

Case Study: Demand Forecasting and Production Planning

A smartphone company noticed that demand for its products increased during festive seasons, while demand declined when prices increased sharply. To meet market demand, the company increased production and analysed labour and machine efficiency.

Questions:

1. Explain the determinants of demand affecting the company's sales.
2. Discuss the importance of elasticity of demand in pricing decisions.
3. Explain the law of variable proportions in relation to production planning.

Economic Analysis I

Case Study

Unit – IV

Case Study: Cost Control and Profit Planning

A food processing company experienced rising transportation and labour costs. The management analysed fixed and variable costs and introduced cost-control measures to achieve break-even sales. The company also examined revenue trends before expanding production.

Questions:

1. Distinguish between fixed costs and variable costs with examples from the case.
2. Explain the significance of break-even analysis in business planning.
3. Discuss how cost and revenue analysis support managerial decision-making.

Economic Analysis I

Case Study

Unit – V

Case Study: Competition and Digital Pricing

An online retail company faced intense competition from multiple e-commerce platforms. To attract customers, the company used discount pricing, product differentiation, and digital advertising. At the same time, a few dominant firms influenced market prices significantly.

Questions:

1. Identify the market structures reflected in the case study.
2. Explain the role of product differentiation in monopolistic competition.
3. Discuss how digital pricing strategies influence consumer purchasing behaviour.

Economic Analysis I

Discussion Forum

Unit I

1. Definition and scope of economics - Students are requested to post their understanding or examples related to each concept.
2. "How does the definition of economics influence your view of decision-making in daily life?"

   Share recent news articles or data to support your points.

3. Debate Forum

   Topic: "Economics is more of a science than an art."

Economic Analysis I

Discussion Forum

Unit II

1. "Is utility measurable? Discuss the relevance of cardinal and ordinal approaches in modern economics."
2. How does the Law of Diminishing Marginal Utility apply to daily consumption habits?
3. Consumer Surplus in Digital Markets – How do online discounts affect consumer welfare?

Economic Analysis I

Discussion Forum

Unit III

1. Why does the Law of Demand operate inversely while the Law of Supply operates directly?
2. Identify a product that violates the Law of Demand. Explain why. Share examples of Giffen or Veblen goods and justify their reasoning.
3. Impact of Technological Advancements on Supply and Production Functions. Students are requested to explore how automation, AI, or digital tools have influenced productivity and cost efficiency.

Economic Analysis I

Discussion Forum

Unit IV

1. Why are cost curves U-shaped in the short run and long run?
2. Break-even analysis in real business situations. share examples of how firms use break-even charts to plan production or pricing strategies.
3. Revenue under perfect competition vs. monopoly – Which market structure benefits consumers more?

Economic Analysis I

Discussion Forum

Unit V

1. Why is perfect competition considered an ideal market structure?" - Discuss the efficiency and fairness of perfect competition compared to real-world markets.
2. Monopoly power – beneficial or harmful to consumers? - debate the pros and cons of monopolies in sectors like utilities or technology.
3. Market structure in the smartphone industry – Perfect competition or oligopoly?

Economic Analysis I

Unit I – MCQs

1. Economics is primarily concerned with

a) Wealth only

b) Welfare only

c) Choice and scarcity

d) Production only

Answer: c

2. Who defined Economics as the science of wealth?

a) Adam Smith

b) Alfred Marshall

c) Lionel Robbins

d) Paul Samuelson

Answer: a

3. Alfred Marshall defined Economics as a study of

a) Wealth

b) Welfare

c) Choice

d) Scarcity

Answer: b

4. Lionel Robbins defined Economics as the science of

a) Wealth

b) Welfare

c) Choice under scarcity

d) Consumption

Answer: c

5. Economics is called a science because it

a) Studies human behaviour

b) Uses experiments

c) Formulates laws

d) Uses money

Answer: c

6. Economics is considered an art because it

a) Uses facts

b) Deals with practical problems

c) Uses theories

d) Studies prices

Answer: b

7. Which definition considers Economics as a study of material welfare?

a) Adam Smith

b) Alfred Marshall

c) Robbins

d) Keynes

Answer: b

8. Wealth refers to

a) Human feelings

b) Material goods and services

c) Moral values

d) social relations

Answer: b

9. Welfare refers to

a) Happiness and satisfaction

b) Only income

c) Only goods

d) Production

Answer: a

10. Robbins' definition is based on

a) Welfare

b) Wealth

c) Scarcity and choice

d) Growth

Answer: c

11. Economics is a positive science when it deals with

a) What ought to be

b) Moral judgments

c) What is

d) social welfare

Answer: c

12. Normative Economics deals with

a) Facts

b) What ought to be

c) Statistics

d) Income

Answer: b

13. Micro Economics studies

a) National income

b) Inflation

c) Individual units

d) Economic growth

Answer: c

14. Macro Economics deals with

a) Individual firms

b) Price of a commodity

c) National income

d) Consumer behaviour

Answer: c

15. Which branch studies price determination of a product?

a) Macro Economics

b) Micro Economics

c) Development Economics

d) Public Finance

Answer: b

16. Economics is a science of decision-making because it studies

a) Business

b) Choices under scarcity

c) Income

d) Production

Answer: b

17. The scope of economics includes

a) Production only

b) Distribution only

c) Consumption only

d) All of the above

Answer: d

18. Positive economics avoids

a) Facts

b) Data

c) Value judgments

d) Analysis

Answer: c

19. Normative economics is concerned with

a) Reality

b) Ideals

c) Prices

d) Statistics

Answer: b

20. Economics studies human behavior in relation to

a) Wealth

b) Scarce resources

c) Money

d) Markets

Answer: b

21. Micro Economics includes

a) Inflation

b) Unemployment

c) Firm and consumer behavior

d) National income

Answer: c

22. Macro Economics includes

a) Individual demand

b) Individual supply

c) Aggregate demand

d) Price of one good

Answer: c

23. Which is NOT included in the scope of economics?

a) Production

b) Distribution

c) Consumption

d) Weather

Answer: d

24. Adam Smith focused mainly on

a) Welfare

b) Wealth of nations

c) Scarcity

d) Growth

Answer: b

25. Economics is called a social science because it studies

a) Natural laws

b) Human behaviour

c) Plants

d) Chemicals

Answer: b

26. The problem of choice arises due to

a) Unlimited resources

b) Scarcity

c) Surplus

d) Production

Answer: b

27. Which of the following is a macroeconomic variable?

a) Price of rice

b) Wage of a worker

c) National income

d) Cost of a product

Answer: c

28. Which of the following is a microeconomic variable?

a) Inflation

b) National income

c) Demand for a commodity

d) Economic growth

Answer: c

29. Economics deals with

a) Unlimited wants

b) Limited resources

c) Both a and b

d) None

Answer: c

30. Economics as a science uses

a) Opinions

b) Beliefs

c) Systematic study

d) Guessing

Answer: c

Economic Analysis I

Unit – II -MCQs

1. Utility means

a) Usefulness of a good

b) Price of a good

c) Quality of a good

d) Production of a good

Answer: a

2. Total utility is

a) Utility of the first unit

b) Sum of utilities of all units consumed

c) Utility of the last unit

d) Difference between two utilities

Answer: b

3. Marginal utility refers to

a) Total satisfaction

b) Additional satisfaction from one more unit

c) Satisfaction from all units

d) Average satisfaction

Answer: b

4. According to the Law of Diminishing Marginal Utility

a) Total utility decreases always

b) Marginal utility decreases with consumption

c) Price falls

d) Demand increases

Answer: b

5. Which economist introduced the law of diminishing marginal utility?

a) Alfred Marshall

b) Gossen

c) Robbins

d) Adam Smith

Answer: b

6. An exception to the law of diminishing marginal utility is

a) Food

b) Water

c) rare collections

d) Common goods

Answer: c

7. When marginal utility becomes zero, total utility is

a) Maximum

b) Minimum

c) Negative

d) Constant

Answer: a

8. Consumer surplus means

a) Excess supply

b) Excess demand

c) Difference between willingness to pay and price

d) Total utility

Answer: c

9. Who introduced the concept of consumer surplus?

a) Marshall

b) Keynes

c) Robbins

d) Hicks

Answer: a

10. Consumer equilibrium is achieved when

a) Price is highest

b) Marginal utility = Price

c) Total utility is zero

d) Income is zero

Answer: b

11. Law of equi-marginal utility states that

a) MU decreases

b) Equal satisfaction is obtained

c) MU of all goods is equal

d) Price is equal

Answer: c

12. Indifference curve represents

a) Same income

b) Same satisfaction

c) Same price

d) Same demand

Answer: b

13. Indifference curves slope downward because of

a) Law of demand

b) Marginal utility

c) Marginal rate of substitution

d) Consumer surplus

Answer: c

14. Marginal rate of substitution (MRS) means

a) Ratio of prices

b) Rate of exchange between two goods

c) Ratio of income

d) Law of demand

Answer: b

15. The MRS diminishes due to

a) Law of demand

b) Law of diminishing marginal utility

c) Consumer surplus

d) Price change

Answer: b

16. A higher indifference curve shows

a) Lower satisfaction

b) Same satisfaction

c) Higher satisfaction

d) Zero satisfaction

Answer: c

17. Indifference curves never intersect because

a) Prices change

b) Income changes

c) Satisfaction differs

d) Utility is constant

Answer: c

18. Consumer equilibrium under indifference curve analysis is where

a) IC touches budget line

b) IC cuts budget line

c) IC is parallel to budget line

d) IC is far away

Answer: a

19. Law of Equi-marginal utility is also known as

a) Law of substitution

b) Law of demand

c) Law of maximum satisfaction

d) Law of supply

Answer: c

20. A budget line shows

a) Consumer's income and prices

b) Consumer taste

c) Consumer surplus

d) Utility

Answer: a

21. If MRS is falling, the indifference curve is

a) Straight line

b) Convex to origin

c) Concave

d) Vertical

Answer: b

22. Consumer equilibrium is obtained when

a) MUx/Px = MUy/Py

b) Px = Py

c) Income is zero

d) TU is minimum

Answer: a

23. Utility approach based on numbers is

a) Cardinal approach

b) Ordinal approach

c) Indifference approach

d) Law of demand

Answer: a

24. Indifference curve analysis is based on

a) Cardinal utility

b) Ordinal utility

c) Price theory

d) Production theory

Answer: b

25. Consumer surplus is maximum when

a) Price is high

b) Price is low

c) Demand is low

d) Supply is low

Answer: b

26. An indifference map is a set of

a) Demand curves

b) Supply curves

c) Indifference curves

d) Budget lines

Answer: c

27. The slope of indifference curve indicates

a) Price

b) Income

c) MRS

d) Demand

Answer: c

28. Indifference curves are usually

a) Parallel

b) Convex to the origin

c) Horizontal

d) Vertical

Answer: b

29. The law of diminishing marginal utility is applicable when

a) Goods are homogeneous

b) Tastes remain constant

c) Consumption is continuous

d) All of the above

Answer: d

30. Consumer equilibrium means

a) Minimum satisfaction

b) Maximum satisfaction

c) Zero satisfaction

d) No satisfaction

Answer: b

Economic Analysis I

Unit – III MCQs

1. Demand refers to

a) Desire for a good

b) Willingness to buy

c) Ability to buy

d) Desire backed by willingness and ability to buy

Answer: d

2. The law of demand states that

a) Price and demand move in same direction

b) Price and demand move in opposite directions

c) Demand is constant

d) Supply increases

Answer: b

3. Which of the following is an exception to the law of demand?

a) Normal goods

b) Giffen goods

c) Inferior goods

d) Substitute goods

Answer: b

4. Elasticity of demand measures

a) Change in price

b) Change in demand

c) Responsiveness of demand to price change

d) Increase in income

Answer: c

5. Price elasticity of demand is calculated as

a) Change in price ÷ Change in quantity

b) Change in quantity ÷ Change in price

c) Percentage change in quantity ÷ Percentage change in price

d) Income ÷ Price

Answer: c

6. If demand changes more than price, demand is

a) Inelastic

b) Unit elastic

c) Elastic

d) Perfectly inelastic

Answer: c

7. Perfectly inelastic demand is represented by

a) Vertical line

b) Horizontal line

c) Downward sloping line

d) Upward sloping line

Answer: a

8. A perfectly elastic demand curve is

a) Vertical

b) Horizontal

c) Sloping

d) Curved

Answer: b

9. Supply means

a) Production of goods

b) Willingness to sell

c) Stock of goods

d) Quantity offered for sale at a price

Answer: d

10. Law of supply states that

a) Price and supply move in opposite direction

b) Price and supply move in same direction

c) Supply is constant

d) Demand increases

Answer: b

11. An increase in price leads to

a) Increase in supply

b) Decrease in supply

c) No change

d) Fall in demand

Answer: a

12. Which is NOT a factor of production?

a) Land

b) Labour

c) Capital

d) Money

Answer: d

13. Production function shows relationship between

a) Inputs and outputs

b) Cost and profit

c) Price and demand

d) Income and consumption

Answer: a

14. The law of variable proportions is also known as

a) Law of demand

b) Law of diminishing returns

c) Law of supply

d) Law of increasing cost

Answer: b

15. In the short run, one factor of production is

a) Fixed

b) Variable

c) Both

d) None

Answer: a

16. When more units of a variable factor are added, output first increases then decreases – this is

a) Law of supply

b) Law of demand

c) Law of variable proportion

d) Law of returns to scale

Answer: c

17. Returns to scale refers to

a) Short period

b) Long period

c) Market period

d) Price level

Answer: b

18. When output increases more than proportionately, it is called

a) Constant returns

b) Diminishing returns

c) Increasing returns

d) Negative returns

Answer: c

19. When output increases in the same proportion as inputs, it is

a) Increasing returns

b) Constant returns

c) Decreasing returns

d) Variable returns

Answer: b

20. When output increases less than proportionately, it is called

a) Increasing returns

b) Constant returns

c) Decreasing returns

d) Fixed returns

Answer: c

21. Giffen goods violate

a) Law of supply

b) Law of demand

c) Law of returns

d) Law of cost

Answer: b

22. Income elasticity of demand measures change in demand due to change in

a) Price

b) Income

c) Taste

d) Population

Answer: b

23. Cross elasticity of demand shows the relationship between

a) Price and supply

b) Two related goods

c) Income and demand

d) Cost and output

Answer: b

24. A shift in demand curve is caused by

a) Price change

b) Income change

c) Same price

d) Supply change

Answer: b

25. A movement along the demand curve is caused by

a) Income change

b) Taste change

c) Price change

d) Population change

Answer: c

26. Supply curve slopes upward due to

a) Law of demand

b) Law of diminishing returns

c) Law of supply

d) Law of consumption

Answer: c

27. Short run production involves

a) All factors variable

b) Some factors fixed

c) No fixed factors

d) Only labour

Answer: b

28. Long run production involves

a) One fixed factor

b) Two fixed factors

c) All factors variable

d) No production

Answer: c

29. The relationship between factors of production and output is called

a) Demand function

b) Cost function

c) Production function

d) Utility function

Answer: c

30. Elasticity of demand is greater than one when demand is

a) Inelastic

b) Unit elastic

c) Elastic

d) Perfectly inelastic

Answer: c

Economic Analysis I

Unit – IV - MCQs

1. Cost refers to

a) Price of a product

b) Expenditure incurred on production

c) Profit earned

d) Revenue received

Answer: b

2. Fixed costs are

a) Costs that change with output

b) Costs that remain constant in the short run

c) Variable costs

d) Semi-variable costs

Answer: b

3. Variable costs

a) Do not change with output

b) Change with output

c) Remain fixed

d) Are independent of production

Answer: b

4. Total cost is the sum of

a) Fixed cost and profit

b) Variable cost and profit

c) Fixed cost and variable cost

d) Revenue and cost

Answer: c

5. Average cost is calculated as

a) TC ÷ Output

b) FC ÷ Output

c) VC ÷ Output

d) Profit ÷ Output

Answer: a

6. Marginal cost refers to

a) Cost of all units

b) Cost of producing one additional unit

c) Fixed cost

d) Total cost

Answer: b

7. In the short run, at least one factor is

a) Variable

b) Fixed

c) Free

d) Constant

Answer: b

8. In the long run

a) All factors are fixed

b) All factors are variable

c) Only labour varies

d) Only capital varies

Answer: b

9. Total revenue is

a) Price × Quantity sold

b) Profit

c) Cost

d) Output

Answer: a

10. Average revenue equals

a) Price

b) Profit

c) Cost

d) Demand

Answer: a

11. Marginal revenue is

a) Total revenue

b) Revenue from one additional unit

c) Average revenue

d) Cost

Answer: b

12. Break-even point is where

a) Profit is maximum

b) Loss is minimum

c) Total cost = Total revenue

d) Sales are highest

Answer: c

13. Break-even analysis helps to determine

a) Profit only

b) Cost only

c) Sales needed to cover cost

d) Market demand

Answer: c

14. The formula for break-even point (units) is

a) Fixed Cost ÷ (Selling price – Variable cost)

b) Total cost ÷ Sales

c) Profit ÷ Sales

d) Revenue ÷ Cost

Answer: a

15. Contribution means

a) Selling price

b) Fixed cost

c) Selling price – Variable cost

d) Total cost

Answer: c

16. If selling price increases, break-even point will

a) Increase

b) Decrease

c) Remain same

d) Become zero

Answer: b

17. If fixed cost increases, break-even point will

a) Decrease

b) Increase

c) Remain unchanged

d) Become zero

Answer: b

18. Semi-variable cost is

a) Fixed only

b) Variable only

c) Partly fixed and partly variable

d) None

Answer: c

19. Which of the following is a fixed cost?

a) Raw material

b) Wages

c) Rent

d) Power

Answer: c

20. Which of the following is a variable cost?

a) Machinery

b) Rent

c) Raw materials

d) Insurance

Answer: c

21. Profit is

a) TR – TC

b) TC – TR

c) FC – VC

d) AR – MR

Answer: a

22. In break-even analysis, costs are assumed to be

a) Variable

b) Fixed

c) Linear

d) Irregular

Answer: c

23. Sales value at break-even point is called

a) Margin of safety

b) Break-even sales

c) Profit

d) Loss

Answer: b

24. Margin of safety shows

a) Profit

b) Loss

c) Excess of actual sales over break-even sales

d) Cost

Answer: c

25. One limitation of break-even analysis is

a) It ignores cost

b) It assumes costs are linear

c) It shows profit

d) It shows loss

Answer: b

26. Average cost curve is usually

a) U-shaped

b) Straight line

c) Horizontal

d) Vertical

Answer: a

27. Marginal cost intersects average cost at

a) Highest point

b) Lowest point

c) Zero point

d) Break-even

Answer: b

28. In the short run, fixed cost

a) Changes with output

b) Remains constant

c) Increases

d) Decreases

Answer: b

29. Total revenue increases when

a) Price falls

b) Quantity sold increases

c) Cost increases

d) Fixed cost increases

Answer: b

30. Break-even analysis is also known as

a) Cost–volume–profit analysis

b) Demand analysis

c) Price analysis

d) Utility analysis

Answer: a

Economic Analysis I

Unit – V - MCQs

1. A market refers to

a) A place where goods are sold

b) A group of buyers and sellers

c) A shopping complex

d) A shop

Answer: b

2. Perfect competition is characterized by

a) One seller

b) Many buyers and sellers

c) Few sellers

d) Price control

Answer: b

3. In a perfectly competitive market, the firm is a

a) Price maker

b) Price taker

c) Price leader

d) Price controller

Answer: b

4. Monopoly market has

a) One buyer

b) One seller

c) Many sellers

d) Few sellers

Answer: b

5. The demand curve of a monopolist is

a) Horizontal

b) Vertical

c) Downward sloping

d) Perfectly elastic

Answer: c

6. Monopolistic competition has

a) One seller

b) Many sellers selling differentiated products

c) Few sellers

d) Homogeneous products

Answer: b

7. Oligopoly market consists of

a) One firm

b) Two firms

c) Few dominant firms

d) Many firms

Answer: c

8. Which market has homogeneous products?

a) Monopoly

b) Oligopoly

c) Perfect competition

d) Monopolistic competition

Answer: c

9. In monopoly, the price is determined by

a) Government

b) The firm

c) Market forces

d) Consumers

Answer: b

10. In perfect competition, price is determined by

a) Individual firms

b) Government

c) Industry demand and supply

d) Monopolist

Answer: c

11. Selling cost is important in

a) Monopoly

b) Perfect competition

c) Monopolistic competition

d) Oligopoly

Answer: c

12. Price discrimination is possible under

a) Perfect competition

b) Monopoly

c) Monopolistic competition

d) Oligopoly

Answer: b

13. In which market is price rigid?

a) Monopoly

b) Perfect competition

c) Oligopoly

d) Monopolistic competition

Answer: c

14. In monopolistic competition, firms sell

a) Identical products

b) Differentiated products

c) One product

d) Free goods

Answer: b

15. A firm under perfect competition earns normal profit in the

a) Short run only

b) Long run

c) Never

d) Always

Answer: b

16. Entry of new firms is

a) Easy in perfect competition

b) Difficult in perfect competition

c) Impossible in monopolistic competition

d) Restricted in monopoly

Answer: a

17. Monopoly exists due to

a) Free entry

b) Legal restriction

c) Many buyers

d) Homogeneous goods

Answer: b

18. Kinked demand curve is associated with

a) Monopoly

b) Oligopoly

c) Perfect competition

d) Monopolistic competition

Answer: b

19. Which market has close substitutes?

a) Monopoly

b) Perfect competition

c) Monopolistic competition

d) Oligopoly

Answer: c

20. The number of sellers in monopolistic competition is

a) One

b) Two

c) Few

d) Many

Answer: d

21. In monopoly, marginal revenue is

a) Greater than price

b) Equal to price

c) Less than price

d) Zero

Answer: c

22. Perfect competition leads to

a) High prices

b) Consumer exploitation

c) Efficient allocation of resources

d) Price discrimination

Answer: c

23. A monopolist is a

a) Price taker

b) Price maker

c) Both

d) None

Answer: b

24. Which market form is closest to reality?

a) Monopoly

b) Perfect competition

c) Monopolistic competition

d) Oligopoly

Answer: c

25. Advertising plays a major role in

a) Perfect competition

b) Monopoly

c) Monopolistic competition

d) Pure competition

Answer: c

26. In perfect competition, abnormal profits exist in

a) Long run

b) Short run

c) Both

d) Never

Answer: b

27. Which market faces competition from close rivals?

a) Monopoly

b) Oligopoly

c) Monopolistic competition

d) Perfect competition

Answer: c

28. Price wars are common in

a) Monopoly

b) Oligopoly

c) Perfect competition

d) Monopolistic competition

Answer: b

29. A monopolist can fix

a) Only output

b) Only price

c) Either price or output

d) Both price and output

Answer: c

30. Homogeneous products mean

a) Differentiated goods

b) Identical goods

c) Luxury goods

d) Inferior goods

Answer: b

Economic Analysis I

Assignment Questions

Unit I

1.Define Economics and explain the different definitions given by Adam Smith, Alfred Marshall, and Lionel Robbins.

2. Explain the concept of Economics as a science of choice and decision-making.

3. Discuss whether Economics is a science or an art.

4. Differentiate between Positive Economics and Normative Economics with examples.

5. Explain the scope of Economics and distinguish between Microeconomics and Macroeconomics.

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1. Samuelson, P. A., & Nordhaus, W. D. Economics. McGraw-Hill Education.
2. Marshall, A. Principles of Economics. Macmillan.
3. Robbins, L. An Essay on the Nature and Significance of Economic Science. Macmillan.
4. Stonier, A. W., & Hague, D. C. A Textbook of Economic Theory. Longman.
5. Jhingan, M. L. Microeconomic Theory. Vrinda Publications.

Economic Analysis I

Assignment Questions

Unit II

1. Define utility and explain the different approaches to utility analysis.

2. State and explain the Law of Diminishing Marginal Utility. Mention its exceptions.

3. Define Consumer Surplus and explain its significance.

4. Explain the Law of Equi-Marginal Utility with an example.

5. What is an indifference curve? Explain the concept of Marginal Rate of Substitution (MRS) and its properties.

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1. Marshall, A. Principles of Economics. Macmillan.
2. Hicks, J. R., & Allen, R. G. D. A Reconsideration of the Theory of Value. Oxford University Press.
3. Samuelson, P. A., & Nordhaus, W. D. Economics. McGraw-Hill Education.
4. Jhingan, M. L. Microeconomic Theory. Vrinda Publications.
5. Koutsoyiannis, A. Modern Microeconomics. Macmillan.

Economic Analysis I

Assignment Questions

Unit III

1. Define demand and explain the basic concepts related to it.

2. State and explain the Law of Demand and its exceptions.

3. Define Elasticity of Demand and explain its types.

4. Explain the Law of Supply and the factors influencing supply.

5. Explain the Laws of Production – Law of Variable Proportion and Law of Returns to Scale.

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1. Samuelson, P. A., & Nordhaus, W. D. Economics. McGraw-Hill Education.
2. Marshall, A. Principles of Economics. Macmillan.
3. Jhingan, M. L. Microeconomic Theory. Vrinda Publications.
4. Koutsoyiannis, A. Modern Microeconomics. Macmillan.
5. Stonier, A. W., & Hague, D. C. A Textbook of Economic Theory. Longman.

Economic Analysis

Assignment Questions

Unit IV

1.Define cost and explain the different types of costs.

2. Explain short-run and long-run cost behaviour.

3. Define revenue and explain the different revenue concepts.

4. Explain Break-Even Analysis and its significance.

5. Discuss the limitations of Break-Even Analysis.

References

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2. Jhingan, M. L. Microeconomic Theory. Vrinda Publications.
3. Koutsoyiannis, A. Modern Microeconomics. Macmillan.
4. Stonier, A. W., & Hague, D. C. A Textbook of Economic Theory. Longman.
5. Ferguson, C. E. Microeconomic Theory. Irwin.

Economic Analysis I

Assignment Questions

Unit V

1. Define market and explain its basic features.

2. Explain the different types of markets based on competition.

3. Describe the features and price determination under perfect competition.

4. Explain the characteristics of monopoly and how price and output are determined.

5. Differentiate between monopolistic competition and oligopoly.

References

1. Samuelson, P. A., & Nordhaus, W. D. Economics. McGraw-Hill Education.
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