Towards Understanding Economics

BA - Economics

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SYLLABUS - BOOK MAPPING TABLE

Towards Understanding Economics

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Unit III:	**The Households** The consumption decisions – budget constraints, consumption and income/price changes, demand for all other goods and price changes – description of preferences – the investment decision – investment alternatives for a household – desirable attributes of investments – labour supply and savings decision – choice between leisure and consumption – labour force participation – tax policy and labour supply – human capital and education – budget constraints and savings – savings and interest rate, other factors affecting savings.	**Unit III:** **Chapter - 13:** Household as Consuming Unit: The Consumption Decisions **(Pages 139 – 143)** **Chapter - 14:** The Investment Decision: Investment Alternatives for a Household **(Pages 144 – 148)** **Chapter - 15:** Labour Supply **(Pages 149 – 155)** **Chapter - 16:** Human Capital and Education **(Pages 156 – 169)** **Chapter - 17:** Savings Concept and Determinant Factors **(Pages 170 – 176)**
Unit IV:	**The Firm and Perfect Market Structure** Financing, controlling and managing firms – the firm's legal form, corporate finance – why corporations care about financial structure? – takeover and the market for managers – making decisions – centralisation and decentralisation – the boundaries of the firm. behaviour of profit-maximising firms and the production process – short-run costs and output decisions.	**Unit IV:** **Chapter - 18:** Financing, Controlling and Managing Firms **(Pages 177 – 183)** **Chapter - 19:** Corporate Finance: Introductory **(Pages 184 – 189)** **Chapter - 20:** Production and Laws **(Pages 190 – 204)** **Chapter - 21:** The Boundaries and the Behaviour of the Profit-maximising Firm **(Pages 205 – 215)** **Chapter - 22:** Short-run Costs and Output Decisions **(Pages 216 – 225)**
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Unit I: Exploring the Subject Matter of Economics

Chapter 1 Why Study Economics? Scope of Economics

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Have an a understanding of economics as a social science subject
- Glance at the definitions of economics
- Trace the scope of Economics through Microeconomics and Macroeconomics defined and distinguished

Structure:

1.1 NATURE OF ECONOMICS AS A SCIENCE

As a social science, economics is. Being a social science, it basically investigates how people behave economically and suggests how to deal with the emerging problems in the pursuit of economic activities in a society. Economics is the study of how mankind act, move, think, and live in the daily affairs of life.

1.1.1 Nature and Scope of Economics

Economics is a very complex phenomenon in both its nature and application. It depends on how we approach the topic of economics. For instance, Adam Smith and his adherents believe that the nature and application of economics are wealth-oriented. Marshall and other neo-classical economists claim that the scope of economics extends to welfare, however Lionel Robbins claims that the scarcity and choice between boundless purposes and scarce means influence the scope of economics. Modern growth-oriented economists claim that every subject pertaining to the socio-economic facets of human life falls under the purview of economics. More specifically, economics researches:

(i) what to produce? (ii) how to produce? (iii) how much to produce? and (iv) for whom to produce?

Check Your Progress

1. Describe the nature of economics.
2. Explain the scope of economics.

1.2 SUBJECT MATTER OF ECONOMICS

Economics is comprised into two branches: Microeconomics and Macroeconomics

In microeconomics, we study a particular situation, *e.g.*, the study of a firm. In macroeconomics, we study the economic system as a whole, *e.g.*, in microeconomics we study how national income is created and how it is distributed, while in macroeconomics, we study not only how national income is created and distributed but furthermore how the distribution of national income in turn influences the level of national income. Economics also studies the problems of economic development and growth.

Check Your Progress

3. Economics, as such, in modern times, better be considered as a mix of positive decisions blended with certain norms. Indicate the subject matter of economics.

1.3 DEFINING ECONOMICS

The definitions of economics are broadly grouped into:

(i) Wealth definition (Classical approach)

(ii) Welfare definition (Neo-classical approach)

(iii) Scarcity definition and modern approach

(iv) Employment and growth-oriented definition.

1.3.1 Wealth Definition (Classical Approach)

Adam Smith (1776), defined economics as "an enquiry into the nature and causes of wealth of nations". According to J.S. Mill, "Economics investigates into the nature of wealth and the laws of production and distribution". According to J.B. Say, "Economics is the study of laws which govern wealth".

1.3.2 Important Features of Wealth Definition

1. Economics is the subject that studies wealth. It deals with consumption, production, exchange and distribution of wealth.
2. Wealth means material things which are scarce and useful. Non-material goods and goods which are relatively abundant (free goods) were not recognised as wealth, under the classical approach.
3. Wealth definition suggests ways and means to increase the production of material goods or wealth.

1.3.3 Criticisms of Wealth Definition

The following reasons have been raised in opposition to the wealth definition:

1. This definition placed too much emphasis on money instead of people.
2. The meaning and scope of wealth was confined to material goods only.
3. Economic welfare was neglected.
4. By this the subject matter of economics was made much narrower. Economics studies both material and non-material resources.

1.3.4 Welfare Definition (Neo-classical Approach)

Wealth is only a means to an end but not an end in itself. To Marshall, "Economics is on the one side a study of wealth and on the other and more important side, a part of the study of man". Thus, according to Marshall, economics deals with 'material welfare'. Man produces or acquires goods to maximise his welfare. It is not concerned with those activities that are undertaken for pleasure.

The neo-classical definition of economics is one that prioritises social welfare. Marshall contends that only tangible items are the subject of economics, not

intangibles like services. According to Edwin Canan, the goal of political economy is to explain the fundamental factors that influence the material well-being of people.

1.3.5 Important Features of Welfare Definition

1. Economics is the study of how to maximise a person's welfare through their economic activities, such as how they earn money and spend it.
2. Wealth is not the goal of economic action; rather, it is a tool for advancing human welfare.
3. This definition laid emphasis on material welfare. Activities relating to non-material welfare are outside the scope of economics.

1.3.6 Criticisms of Welfare Definition

Lord Robbins made scathing criticism against the welfare definition.

1. Marshall claims that economics solely considers tangible commodities. But what about intangible products like the services of a physician, an attorney, or a teacher? Marshall's definition did not take into account the spiritual elements.
2. This definition of welfare states that economics examines actions that improve human welfare. However, Robbins asserts that some activities, like as the manufacturing and sale of alcohol, opium, and drugs, are "economic" even when they have no positive impact on human welfare.
3. A subjective phenomena, welfare. As a result, Robbins claimed that discussing "human welfare," which cannot be measured, is pointless.
4. The welfare definition of economics, according to Robbins, is more classificatory than analytical. It disregarded the main issue of shortage.

Check Your Progress

4. How economics is defined by Adam Smith?
5. What are the main features of the welfare definition of economics?
6. What are the shortcomings of the welfare definition of economics?

1.4 ROBBINS' DEFINITION OF ECONOMICS

According to Lionel Robbins of the London School of Economics, economics is:

"Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses".

Robbins' definition implies that economics is concerned with the component of human behaviour that results from a lack of resources to accomplish specific goals.

1.4.1 Important Features of Robbins' Definition

According to Robbins, economic life demonstrates the following traits:

1. Man has innumerable or a multiplicity of wants: A human being has limitless wants. When he fulfils one want, another desire appears. The next one

emerges right away once that, too, has been satisfied. There is a chain of sequential desires.

2. Wants can be arranged in the order of their importance: But not all desires are equally significant. Some things are more critical and urgent than others. As a result, a man's desires can be ranked in decreasing or descending order.

3. Scarcity of means: Despite the fact that wants are limitless, there are relatively few ways to fulfil them. A general phrase for time, effort, money, labour, materials, and other productive resources is "means."

4. Means have alternative uses: Our resources are both limited and useful in many different ways. They can be utilised to satiate any of our various desires. Thus, there are other uses for our means. For instance, land can be utilised to build a house that can be used as a residence or as a factory, store, or other structure.

1.4.2 Merits of Robbins' Definition

Due to the following advantages, Robbins' definition won the praise of many economists::

1. **Status of a positive science:** Robbins believes that economists should not be used to make moral judgments about what is right or wrong. In his view, Economics studies all kinds economic activities.
2. **Universal applicability:** The richest and poorest countries can both use Robbins' concept, which includes unlimited ends and limited resources. It holds true whether an economy is capitalist, socialist, or hybrid.
3. **Enhanced scope of economics:** All economic activities are now included in the scope of economics, which has been expanded according to the scarcity concept.
4. **Realistic approach:** Robbins' definition is centered around the problem of scarcity which is the root cause of many problems.
5. **Analytical definition:** Robbins' definition is considered to be the most analytical as it analyses the basic economic problems.
6. **Choice between ends and means:** Robbins looked at human economic behaviour as a trade-off between limited resources and aims.

1.4.3 Criticisms of Robbins' Definition

Economists have levelled the following criticisms against Robbins' scarcity definition.

1. According to Robbins, not all human issues are the result of scarcity. Sometimes having too much of anything can cause issues, as in the case of the Great Depression in the 1930s (Business Cycles).
2. Robbins' definition shranked the scope of economics to scarcity and choice.
3. Economists questioned the impartiality of the Robbins approach. Economics must be the science that produces both light and fruit.
4. Robbins' perspectives on welfare are unacceptable. Man does show some social awareness in their economic endeavours.

5. The Robbins' approach made the economic science a static one because he did not analyse the problems under the dynamic conditions.
6. Besides scarcity there are other issues like economic growth, employment, etc.

Check Your Progress

7. What are the main features of Robbins' definition of economics?
8. Trace the merits and drawbacks of Robbins' definition of economics.

1.5 MODERN APPROACH IN DEFINING ECONOMICS

Employment and Growth-oriented Definitions Leveled in the Modern Approach: Economics is the study of how to create and allocate finite resources and of the determinants of employment, output, income and economic growth.

According to Paul A. Samuelson, "Economics is the study of how people and society end up choosing, with or without the use of money, to employ scarce productive resources that could have alternative uses – to produce various commodities and distribute them for consumption, now or in the future, among various persons and groups in society. Economics analyses the costs and the benefits of improving patterns of resource use".

Check Your Progress

9. Give a brief account of the modern approach in defining economics.

1.6 ASSUMPTIONS IN ECONOMIC ANALYSIS

Some important assumptions made in economic analysis, are:

1. Economics studies a rational man.
2. It studies a normal man in the society within the framework of the state.
3. Conditional supposition (other things being equal).
4. A perfect understanding of products, markets, etc.
5. Assumption relating to – capitalism, socialism mixed economy.

1.7 MICROECONOMICS

Etymologically, the term "microeconomics" has been derived from the Greek word *mikros*, *i.e.*, small, and the term "macroeconomics" from *makros* meaning large. To put it another way, "micro" refers to individualism while "macro" refers to aggregation. Prof. Ragnar Frisch is the author of the words "Microeconomics" and "Macroeconomics."

Micro refers to a "millionth" portion. It signifies that a small portion or a minor element of an overall deal with microeconomics (e.g., national income). Our concern here is to study the small units of a lot to understand its nature and behaviour. According to K.E. Boulding, "Microeconomics is the study of particular

firms, particular households, individual prices, wages, incomes, individual industries and particular commodities".

1.7.1 Scope of Microeconomics

In micro economic analysis, Prof. Marshall and his followers mostly concentrated to analyse the behaviour of individual units. The law of declining marginal utility with respect to a consumer, the demand analysis for a certain good, the industry or firm's equilibrium, the compensation due to a specific factor of production, and national income) etc., all fall under the realm of microeconomic analysis. As maximum attention is paid by microeconomics for pricing of goods and factors, this also known as "Price Theory". Another significant feature of the microeconomic analysis is the assumption of other things being the same (*ceteris paribus* assumption) in the economy.

1.7.2 Importance of Microeconomics

Economic analysis in microeconomics has theoretical and practical implications:

1. **Helpful in understanding the working of the economy:** According to Professor D.S. Watson, "Microeconomics has various applications. The ability to comprehend how the economy functions is the greatest of these uses.
2. **Helpful to provide tools for the economic policies:** The tools needed to create economic policy are provided by microeconomics.
3. **Helpful in the employment of efficient use of resources:** Resources are limited, hence it is crucial that they are distributed effectively among different purposes. Microeconomic analysis is beneficial in this regard.
4. **Helpful in international trade:** It is impossible to create effective trade policy without researching the relative benefits and drawbacks associated with the production and trade of a given good (export and import policy).
5. **Helpful in understanding the problems of taxation:** Though tax policy is not a microeconomic issue, microeconomics understanding helps to impose and collect taxes with least inconvenience.
6. **Helpful to the business executive:** The consumer behaviour, probable changes in demand, availability of resources, etc. are indispensable tools to a business executive.
7. **Helpful for construction and use of models:** Economic models are a powerful instrument in the hands of economists and policy makers today.
8. **Helpful to examine the conditions of economic welfare:** The Government of India, for example, approved the National Urban Transport Policy. This is based on result of certain micro studies.
9. **Helpful to make the prediction:** By studying the behaviour of individual units, microeconomics provides the basis for prediction.
10. **Helpful to achieve "maximum welfare to maximum numbers":** This fundamental principle of welfare economics rate on microeconomics.

1.7.3 Limitations of Microeconomics

1. **Inadequate:** Microeconomics is not a sufficient field of study to comprehend aggregate behaviour.
2. **Full employment:** The entire classical theory is predicated on a few key presumptions. One such important premise is full employment. But in practise, we will experience both unemployment and a lack of full employment. Consequently, Keynes said. "Assuming full employment is assuming all our problems go away."
3. ***Laissez-faire* policy:** The *laissez-faire* philosophy, which means to let the state not intervene, was promoted by classical economists like Adam Smith and others.
4. **Applicability:** It is not appropriate to extrapolate the results of microeconomic studies to the overall economy.
5. **Abstractness:** The microeconomic analysis is basically abstract in its nature and hence far from the reality.
6. **Too much generalisation is not good:** The study of few units and making a generalisation will never give good and reliable results.

1.8 MACROECONOMICS

The world 'Macro' means large or big. It means macroeconomics is the study of the aggregates. Macroeconomics, often known as "aggregative economics," is the study of aggregates. Macroeconomics can therefore be described as the area of economic study that examines the behaviour of all units collectively rather than just one single unit. Hence, macroeconomics may be stated as the steady of aggregates, *e.g.*, national income, general level of employments, etc.

1.8.1 Scope of Macroeconomics

Macroeconomics is relatively a new branch of economic analysis. Yet the scope of macroeconomics is really very wide. It is the study of averages or aggregates that apply to the entire economy, including total employment, total output, national income, total consumption, total investment, and the general price level etc. The study of the 'totals' or 'aggregates' of the important variables in the economic system – income, consumption, saving, investment, employment is conducted independently of the behaviour of units comprising the economic system.

1.8.2 Importance of Macroeconomics

1. **To know the working of an economy:** The study of macroeconomic parameters is a must to understand the functioning of an economy.
2. **To solve employment related problems:** Unemployment is a major issue across all the nations in the world today.
3. **To formulate suitable economic policies:** Macroeconomics help the planners and economists to formulate suitable economic policies.
4. **To study national income:** National income estimates are taking place in all the countries today as being essential to understand an economy.

5. **To tackle the problems inflation/deflation:** Inflation or deflation is a major problem. To tackle this problem, macroeconomics understanding is essential.
6. **Business cycles/trade cycles:** Business cycles are part and parcel of economic process. Macroeconomic suggests remedial measures to business cycles.
7. **Economic growth/development:** Achieving economic development is desired in developing countries while retaining the economic growth achieved is the problem of the developed countries as on Macroeconomics.
8. **To provide solution to monetary problems:** Macroeconomics helps in finding solutions to the money related problems in the economy.
9. **To gain the standard of living of people:** Income, employment, general price level, availability of goods etc. services indicate the standard of living.
10. **To promote economic welfare:** Macroeconomics suggests measures for economic welfare or well being of the society.

1.8.3 Limitations of Macroeconomics

1. **Too much generalisation is not good:** Excessive generalisation makes macroeconomics less dependable. For example, borrowing is good for the state in times of crisis. But, today, we see that the developed countries are also caught up in the debt trap due to excessive borrowing.
2. **All units of the aggregates may not be homogeneous:** All individual units are not homogeneous. It is possible to add or subtract apples or oranges but it is not a possible to add or subtract apples and buildings.
3. **Indiscriminate use of macroeconomics may become irrelevant:** We should take all precautions while using macroeconomics. For example, an economic model suitable to USA or UK may not be suitable to India.
4. **Statistical and conceptual difficulties:** While estimating national income like aggregates, we often come across these problems.
5. **Aggregates may not be important always:** A solution found in general cannot be applied to all the individual units. For example, the family welfare measures adopted in Kerala are not suitable to Bihar.
6. **Limited applicability:** Macroeconomics the problem of limited application.

1.9 DISTINCTION BETWEEN MICROECONOMICS AND MACROECONOMICS

1. **Difference in assumptions:** Microeconomics assumes full employment, constant income and production levels. On the other side, macroeconomics assumes the factor distribution, consumption pattern, etc as given and constant.

2. **Difference in the degree of aggregation:** Macroeconomics studies the individual units whereas macroeconomics deals with aggregates.
3. **Differences in objective:** Macroeconomics works with an objective of optimum allocation of resources. Macroeconomic studies the problem related to full employment and economic growth.
4. **Difference in analytical tools:** Microeconomics deals with individuals Macroeconomics deals with aggregates.
5. **Difference in the forces of equilibrium:** If the demand for and supply of labour is known, we can tell the market wage rate in macroeconomics. However, in order to determine the level of employment under macroeconomics, we require the aggregate supply function and aggregate demand function.

1.10 SCIENCE OF ECONOMICS

The science of economics aims to understand the impact of science on the advance of technology, the markets efficiency and working of economic institutions.

In the modem world, the study of economics has assumed great importance as economics has a pervading influence on all types of activities.

(i) The knowledge of economics tells us how the economic system works.

(ii) It enumerates the various factors which account for a given economic situation.

(iii) Economics is useful to the government, to the banker, to the businessman and to the industrialist. On the basis of economic considerations, government decides how money should be raised, *e.g*., by taxation, borrowing or deficit financing and how it should be spent. The banker with the knowledge of economics, can decide be the rate of interest, for which activities loans should be given, etc. The businessman and the industrialists decide type and quantum of production, imports and exports.

(iv) The knowledge of economics is also useful to the labour leader and employer. The employer and labour leader know what would be the profits and what wages should be paid. The knowledge of economics is very useful to trade unions in collective bargaining.

Check Your Progress

10. What is the significance of Economics?
11. Indicate the focus of microeconomics and macroeconomics.

1.11 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Economics is a social science.
2. It examines economic behaviour of man in the society.
3. Economics precisely focusing on consumption production, distribution and exchange issue emerging in an economic.

4. Classical definition of economics emphasises on the creation of wealth.
5. Marshall stressed on welfare considerations in economic analysis. Welfare definition laid emphasis on economic welfare.
6. It neglected non-material welfare. Certain activities though may be income earning but not welfare seeking, *e.g.*, sale of wine.
7. Robbins pinpointed on the scarcity of means and adjustment of wants with a rational choice.
8. Robbins' definition is realistic. It is, however restrictive in its approach.
9. Modern economists are emphasising an growth orientation issues. Economics relates to the rationality of mankind in the economic pursuits.
10. Knowledge of economics is precious for the industrialists, households, traders and the government.
11. Microeconomics focuses on individual's economic behaviour whereas macroeconomics examines behaviour of the people in society at large.

1.12 SUMMARY

- Economics is a practical social science that illuminates how people use money to pursue their goals of chosen wants against their multiplicity.
- *Ceteris paribus* assumptions, or the given circumstances and certainty of acts or events, form the foundation of economic theories.
- However, economic theory does assist in helping us make wiser selections regarding the required tasks.
- Microeconomics exploring individual economic behaviour.
- Macroeconomics examines peoples economic actions and movements in the economy as a whole.
- According to Robbins, economics is the science that examines how human behaviour relates to scarce resources that can be put to other purposes. Essentially a positive science, economics.
- It is containing a code of theoretical knowledge with a practical touch towards exposition of man's economic behaviour in a society.

1.13 KEY TERMS

- **Economics:** The examination of human behaviour as a link between many wants that are adapted to the limited resources that are accessible for other uses.
- **Economic Choice:** The rational choice of man as an economic entity.
- **Microeconomics:** The study confined to the behaviour of individual consumer – households and producer – the firm.
- **Macroeconomics:** The study of peoples aggregate economic behaviour.

1.14 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State main assumptions in economic analysis.
2. Briefly explain Robbins' view on economics.
3. Trace the scope of Microeconomic Analysis.
4. Short Notes on:
   (a) Wealth definition (b) Welfare definition
   (c) Scarcity definition (d) Microeconomics
   (e) Macroeconomics (f) Limitations of Microeconomics

Long Answer Questions

1. Discuss the nature and significance of economics.
2. Critically examine Robbins' definition of economics.
3. Define microeconomics. Explain its scope importance limitations.
4. Define macroeconomics. Explain its scope and importance.

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Chapter 2 Economic Problem: Scarcity and Choice

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Know the meaning of scarcity
- Understand what can be a rational choice
- Detect decision-making issues in business
- Grasp Economics as a Positive-cum-Normative Science

Structure:

2.1 SCARCITY: CAUSE OF ECONOMIC PROBLEMS

Most economic problems arise out of the fact that despite the fact that human needs are numerous and limitless, there aren't many or many productive resources available to meet them. Because of the imbalance of wants and means in our life, we have to economise. Economising means making a rational choice of wants and means when one's wants cannot be satisfied with the given limited means. Thus, to economise means to make adjustments in wants and resources such that the greatest number of wants can be met with the available resources. As such, economic problems are problems of economising. Scarcity is the root cause of our economic problems.

2.1.1 Towards a Rational Choice Making

However, because resources can be put to other purposes and wants are comparable and thus gradable, a logical choice of wants and resources is still conceivable. As a matter of fact, all our wants are not of equal importance. Some are more important and urgent than others. Some wants have to be satisfied immediately, while some can be postponed. It is, therefore, possible to arrange our wants in a descending order of importance. As it is possible for us to compare the importance of various wants, or in other words, grade our wants, we are in a position to make a choice or select a few from amongst those which are most important. Thus, choice seems possible because the ends or wants differ in their intensity, urgency, priority or importance, and it is necessary to make a choice because all our wants cannot be satisfied all at once. Our resources are both limited and versatile.

Briefly, thus, economic problems originate from these four facts of our economic life, *viz*., (i) we can have anything we want, (ii) there are few ways to fulfil these desires, (iii) our wants are gradable according to their intensity and urgency and (iv) our resources or means are versatile, *i.e*., they can be used for one purpose or the other. All these conditions must be simultaneously present for the problem of economising — making a choice. Choice, in fact, is the core of an economic problem. Making a choice of wants and resources is described as an economic decision.

2.1.2 Choice in a Free Economy

Consumers in a free market economy are only constrained by their financial resources in terms of what they can afford to buy. The relative strength of consumers' demands for various commodities determines the amount of each commodity that an entrepreneur or producer will try to produce. For example, an increasing demand for modern sunmica furniture will lead to an expansion in the manufacture of such furniture. This industry will, therefore, itself attract to large amounts of investment and labour from an industry of some product for which there is less demand. In this way, scarce or limited resources, which have alternative uses, are distributed amongst the various products.

2.1.3 Choice in a Planned Economy

In a centrally planned economy, the State decides as to what should be produced in what quantity. The individuals in the community do not have any freedom to make a choice about these. How much freedom of choice an individual will have depends on the nature of planning. In totalitarian planning, like that of Russia, everything is decided by the State.

Check Your Progress

1. Explain the root cause of economic problems.
2. What do you mean by economic scarcity?
3. Indicate the model of economic choice making.

2.2 ECONOMIC SOCIETY'S PRODUCTION POSSIBILITY CURVE

The central problem of every economic society is the problem of choice between relatively scarce commodities that can be produced from limited means.

To Samuelson, the production-possibility frontier (*p-p* frontier) can be used to furnish a vigorous definition of scarcity. He states: "Economic scarcity refers to the basic fact of life that there exists only a finite amount of human and non-human resources, which the best technical knowledge is capable of using, to produce only a limited maximum amount of each and every good, as shown by the *p-p* frontier." Again, the *p-p* frontier also elucidates the two basic problems of the economic life of a community: (i) what to produce: and (ii) how to produce.

The point chosen by the community on the *p-p* frontier depicts what goods, in what proportions, are produced and consumed. How goods can be produced is a question which involves "an efficient choice of methods and proper assignment of different amounts and kinds of limited resources to the various industries." Evidently, if the community has economic efficiency, it will be on the *p-p* frontier, and not inside it. "Being inside the frontier is a crime of economic inefficiency."

As it would mean less of *X* and *Y* than otherwise, it would have been possible as the outcome of the same given resources, if allocated more efficiently. Consequently, the central issue of economic studies is the optimal allocation of resources. The classical economists, assuming full employment equilibrium conditions in the economy, in the long run, concentrated more on this issue of optimum allocation of the given resources. If, however, we have to show that economies are also a study of growth, then it should be interpreted through a shift in the *p-p* frontier. As a result of development, not only the actual output point shifts towards the *p-p* curve, but the *p-p* curve itself shifts, as shown in Fig. 2.1(B). The growth problem is how to shift the *p-p* curve and how to move the actual production point towards it.

Keynesian theory deals with how to shift point *Z* to *Q* on the *p-p* frontier. It suggests the solution to the problem of unemployment, or underemployment of the given resources. But, the shift in the *p-p* curve from *AB*, to *A'B'*, is the result of

economic growth in the country. It is caused by capital formation and other developmental factors.

The concept of the production-possibility frontier and the economising aspect are explained under the following assumptions:

1. The productive resources, such as labour, capital, etc. are fixed in supply.
2. The technique of production is given — it remains constant.
3. There is full employment condition of economy's equilibrium.

Now, let us assume, for the simplicity of analysis, that the economy is producing only two goods, *X* and *Y*. The commodity *X* is a class of consumer goods, and the commodity *Y* is a class of capital goods. Since the resources are given in a limited quantity, the units of production of the two types of goods will also be limited. The range of possible alternate pairings of the two products that can be made using the resources at hand, can be depicted through the production-possibility curve, as shown in Fig. 2.1. In Fig. 2.1, *AB* is the production-possibility frontier. It is also referred to as the 'transformation curve' because it indicates the nature of transformation of one commodity into the other with the shift of resources from one use to the other. The curve *AB* indicates that if all the resources are employed in industry *Y*, *OA* of *Y* is the highest amount that can be made. In a similar vein, if all available resources are used in industry *X*, *OB* of *X* at the most can be produced. Starting from *A*, if we move to point *a* on the curve, it implies that OA_1 of *Y* and OB_1 of *X* are produced, or now, more of *X* is produced, with less of *Y*. Points *b* and *c* also tell us the same thing. Any location along the production-possibility frontier indicates the greatest number of commodities that can be produced using all available resources.

Incidentally, any point such as *Z*, in the diagram, implies that actual output of the economy is at underemployment level of equilibrium. It means that the given productive resources are not fully employed by the economy.

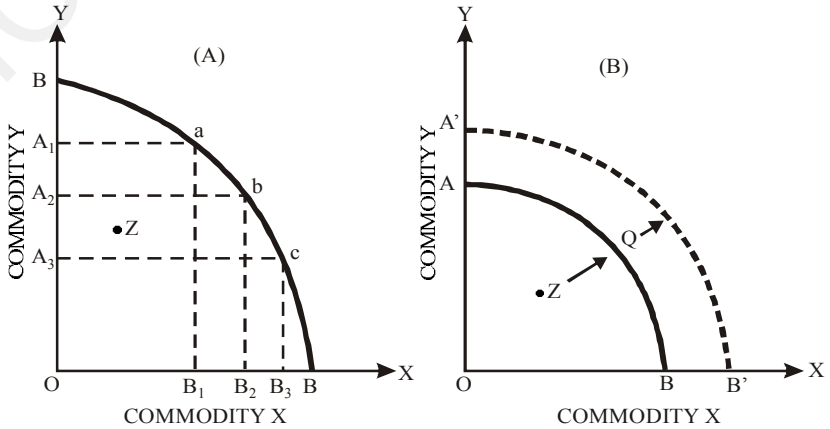

Fig. 2.1: Production-possibility curve

Check Your Progress

4. Explain what is meant by production-possibility (*p-p*) curve?
5. What is the utility of *p-p* curve in view of Prof. Samuelson?

2.3 ECONOMIC PROBLEM: BUSINESS PROBLEM

The basic economic problem to be considered by a producer relating to business decision-making is confined to an economic understanding pertaining to production activity, such as:

- What to produce
- How much to produce
- How to produce
- Where to produce.

In essence, all of these economic issues have to do with how productive resources like land, labour, capital, and business, as well as money or money in a contemporary economy, are allocated and used. The five Ms—Men, Machines, Materials, Management, and Money—are crucial factors in determining how to allocate scarce resources in manufacturing. Economics teaches us how to use these resources in the best possible way. Resource allocation decisions in a commercial activity must be made in three steps:

- **Allocative Decision:** What kinds of products should be made with the relatively limited production resources that are currently accessible.
- **Productive Decision:** How to use the resources to generate the necessary amount and pattern of goods and services, as well as how to combine or employ the available resources.
- **Distributive Decision:** Whom these goods and services are to be delivered to or distributed to.

Check Your Progress

6. State the tasks to be accomplished by an economy.

2.4 BASIC ECONOMIC MODES TOWARDS ECONOMIC DECISION-MAKING AND THE WORKING OF MARKET ECONOMY

2.4.1 Economising: The Logic of Choice

Despite the limited economic resources available, they can be used in other ways and choice is possible assigning priorities to different wants, needs or business goals. Economising, thus, implies making a rational choice of wants or goals and allocation of resources accordingly. The whole process of economising implies minimisation and maximisation, *i.e.*, choosing the wants in order of priorities such that maximum satisfaction is reached with the minimum use of the given resources.

2.4.2 Economic Trade-off

Since resources are capable of alternative uses, its allocation should be rational. There is a trade-off in the use of resources. For instance, on a given plot of land, one may construct either a residential complex (x) or a commercial complex (y). There is a trade-off between these two complexes in using the available land.

Likewise, a household, when spends the income, will face a problem of allocation trade-off in how to spend the available money on different goals. He needs to choose then. For example, a person has to decide whether he wants to spend more on clothing or entertainment. With a limited income if he decides to buy expensive clothing, he will have less for entertainment. Likewise, in family budget decision-making, the household faces a trade-off between consumption and savings. When consumption increases from a given income flow, savings decrease. When savings increase, consumption will decrease. This economic trade-off is for an individual as well as for the people in the economic society in an economy as a whole too. Likewise, the government also encounters a trade-off in budgetary allocations of the public revenue. If government non-development expenditure increases, its developmental expenditure tends to be decreasing against a given amount of pubic revenue. A generalised economic trade-off is portrayed in Fig. 2.2.

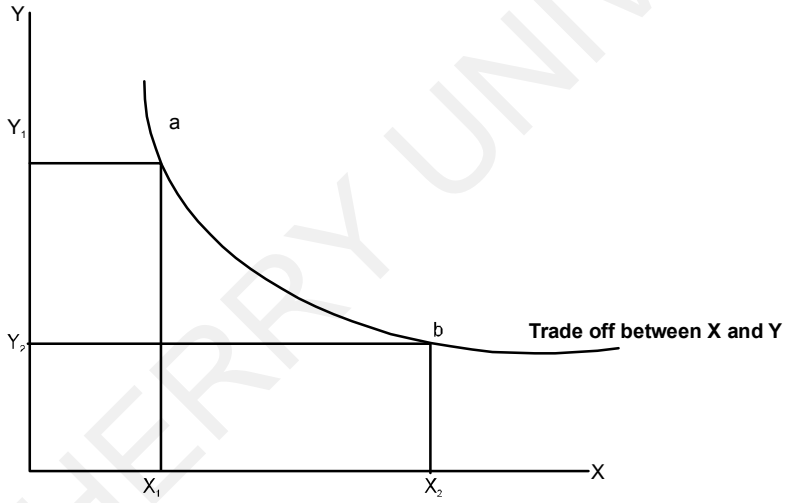

Fig. 2.2: Trade-off Curve

Fig. 2.2 depicts that, on the trade-off curve, one can choose a combination of *X* and *Y* at point '*a*' or at '*b*'. At point '*a*', *Y* is more, *X* is less. If *X* is to be increased, one moves to point '*b*' implying a trade-off between *X* and *Y*, having more of *X* at the cost of *Y*. So, *Y* is less.

2.4.3 Opportunity Cost

Making a decision entails selecting one option among several choices. The loss of the next best alternative course of action is known as the opportunity cost of a decision. If no sacrifice is required, a choice is free of charge. When a businessperson, for example, invests his own money in a company, the opportunity cost of that decision can be calculated in terms of the interest that he could have received by lending that money to someone else. Similar to this, the opportunity cost of him investing his time in starting his firm can be calculated in terms of the wages he could have made from other work. The cost of sacrificing something else (*y*) from the use of a given resources when a decision is made in favour of one thing (*x*).

2.4.4 Marginalism

The concept of margin is fundamentally used in economic thinking and arriving at the right rational decision. In economic science, that the phrases like marginal buyer, marginal cost, marginal revenue, and so on are used in a pivotal sense. Margin refers to the last in the total or an extra into the total. For example, if a buyer buys four apples, then the 4th apple is taken as a margin. Likewise, in a given total of 4 apples, when an addition is made by one more apple, this extra one is considered a margin. For example, one can measure the marginal utility in the product purchased by a consumer.

$$MU_n = TU_n - TU_{n-1}$$

where, MU = Marginal Utility and TU = Total Utility

2.4.5 Equi-marginal Principle of Optimisation

In economic analysis, the equi-marginal principle is crucial. It is crucial for establishing the best scenario for resource allocation. The equi-marginal principle states that a factor input should be used in various activities in a ratio such that its marginal product value is equal (or the same) across all uses, allowing for the achievement of the optimal level. Using symbols, for example:

$$(VMPL)_a = (VMPL)_b = (VMPL)_c$$

(VMPL, or value of marginal product of labour, is used here to refer to the three activities a, b, and c.) The equi-marginal principle is extremely beneficial when making investment and spending decisions.

Check Your Progress

7. Indicate the basic principles involved in economic decision-making.

2.5 TIME PERSPECTIVE

In their study, economists frequently utilised the terms functional time spans, short run, and long run. Making business decisions requires taking into account both the short and long term perspectives of time. The business owner or management in particular needs to consider how decisions may affect costs and income in the long run.

The short-run study of the business data and performance is the foundation of short-term time views. From the perspective of trade cycles, seasonal fluctuations in the business are typically seen, and decisions are made to address the evolving situation in the course of business within a short period of time. In order to meet the demand for withdrawals of deposits in the first week of every month, for example, a banker would also find it necessary to maintain a high level of cash flow as liquidity. This is because customers need to pay their monthly bills and other necessary expenses. Fireworks vendors maintain a larger supply during the Diwali season.

2.6 MARKET ECONOMY

A free enterprise economy is a market economy. In a simple model of the market economy, there are two basic sectors, namely: (i) the Households, and (ii) the Firms. The market economy is an exchange economy. There are, thus, economic transactions between the households and the firms. "Households" refer to any individual or family acting as an economic unit. In the economic unit, the household sector constitute both consumers who are suppliers of the productive resources as well as consumers of goods and services (land, labour, capital and entrepreneurship) to the firms. "Firms" refer to businesses or producing units which take decisions about production and organise according to productive resources supplied by the households. It follows that there is interdependence between firms and households. The businesses are providers of the finished items and services that consumers in the product markets want. Similarly, the households are the suppliers of productive resources which are demanded by the firms.

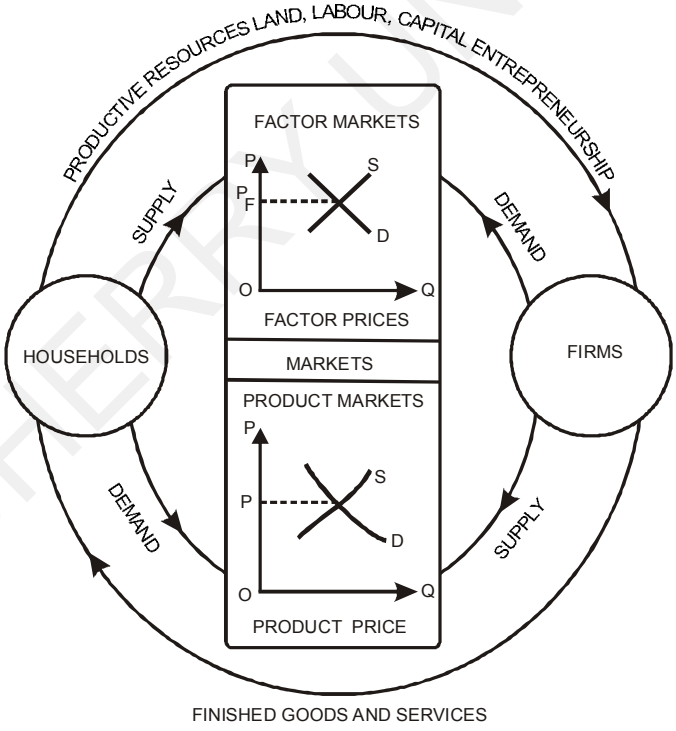

Fig. 2.3: The Simple Market Economy Model

To obtain maximum possible satisfaction from the given limited resources, the market economy establishes a link between households and firms through the factor and product markets. The price system is the driving force behind the market system. The interaction of supply and demand for the production elements (land, labour, capital, and entrepreneurship) on the factor markets determines factor prices. For labour, land, capital, and enterprise, factor prices are expressed as wages, rent, interest, and profits, respectively. The amount of income flowing to households is determined by these factor prices. The households use these earnings to buy the products and services made by the businesses. Thus, the households' expenditures (consumers' outlay) determine the market's desire for products and services. As a result, the interaction between supply and demand for goods and services

determines the prices of the products. It is important to remember that each factor's price is decided by the precise demand and supply conditions that exist in the factor market. Similar to how each commodity's price is determined by its unique supply and demand dynamics in the market. The consumer's decision and the price he is ready to pay for a product are indicators of the demand for that product. Let's say that the price of the commodity X will increase when consumer demand outpaces the available supply on the market. This boosts the revenue of the companies making commodity X. Production in the market economy is profit-oriented. So, the increased profits in the production of commodity *X* will induce the producers to produce more of it. So, the producer will tend to allocate more resources in favour of *X*. In factor markets, thus, the demand for factors required for producing *X* will rise.

2.6.1 Functions of Price Mechanism

The price mechanism in a market economy carries out the following functions automatically:

1. Registering consumers' preferences and demands for different goods and services, and transmitting them to the firm.
2. Displaying the profitability of various goods and services and encouraging companies to engage in production.
3. The distribution of resources to generate various goods and services in accordance with consumer desires.
4. Deciding distribution of the final products.
5. Achieving supply and demand balances in the markets for commodities and factors.
6. Coordination between consumption and production.

2.7 SCIENCE OF ECONOMICS: POSITIVE VS. NORMATIVE

Economics examines human economic activity without considering its moral implications.

The economic phenomenon is explained by positive economics as what is, what was, and what will be. Normative Economics lays out what should be done.

It is debatable whether economics is a positive science or a normative one. The ultimate goal of studying any subject, in the opinion of economists like Professors Marshall and Pigou, is to advance human welfare. These economists believe that economics ought to be a normative science. It ought to be able to advise policymakers on potential policy changes. It ought to be able to impose rules for how to conduct economic activities. Both tool creators and tool users are required of economists. It implies that economists should not only develop economic theory but also propose policy solutions concurrently.

But Professor Robbins asserts that economics is a useful discipline. Since science is ultimately a quest for truth, economics should investigate the reality of things rather than how they should be. This is due to the fact that when we assert

that something ought to be this way, we do it under the assumption that we are right. When we share our thoughts, we take into account our own worth. Not only economic concerns, but also many other issues, including ethical, political, and other considerations, must be taken into account while studying a situation at a particular moment. A policy decision has to be made after assessing the relative weight of these distinct elements. As a result, there will inevitably be variations in the prescription of policies, thus it is best to steer clear of contentious topics and focus on the available information.

Economists Differ

Often, economists have appeared to have differences of opinions on the solutions to given problems and their advise to the policy makers. They disagree on several issues and diagnosis. This happens because economic policy making is a blending of positive and normative approaches. Secondly, economists may disagree on the ground of different economic theories and their axioms in analysing the working of an economy. Thirdly, economists may disagree on the incorporated variances and their significance in the economic models constructed for empirical investigations. Disagreement may be on the ground of sample size and methodology. Fourthly, economists may have disagreements on the pricing norms and suggestions. They may differ on the value judgements.

2.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Scarcity of means is the root cause of economic problems as against the multiple wants to be satisfied.
2. Scarcity implies a fewness of things goods required/prepared are purchased by spending money.
3. A rational choice of resources is essential as these are available in a limit. Rational choice means a thoughtful choice in consideration.
4. *p-p* curve relates to the problem of choosing among the given limited resources towards satisfaction of wants.
5. *p-p* curve is useful in understanding the alternative course of choosing resources for the maximum satisfaction of wants as far as possible, thus, reaching at an equilibrium point, as per economic terms.
6. An economy must carry out a number of fundamental functions, including resource allocation, resource exploitation by whom and how, and distribution issues.
7. There are certain basic economic ways that are useful in business/economic decision-making to an economic entity – a consumer or a firm at micro level and the government or institution at a macro level.

2.9 SUMMARY

- Utilising the limited resources in a society with a market economy in a way that satisfies the greatest number of wants is the fundamental economic challenge.

- The primary issue in all economic systems is how to allocate limited resources to meet as many needs as possible.
- Making economic decisions is both an art and a science. Rational choice making is the main decision-making issues in an economic society.
- A rational choice implies a challenge to the scarcity in economic life.
- By and large, economic studies the process of decision-making solving the problem emerging in economic society, time to time.
- Economising is essential even in an ordinary life of a person, apart from the business firm. Economising implies making rational economic choice.
- In a market economy, economic organisations are run by the individuals and corporate sector. It is a free enterprise economy. It is based on the government's *laissez-faire* approach. Profit is its main motive force.
- A market economy is a competitive economy. It comprises product markets and factor markets. It implies automatic allocation of the productive resources. It is subject to cyclical variations.

2.10 KEY TERMS

- **Scarcity:** Fewness of a thing.
- **Rational Choice:** Thoughtful choice of economic resources.
- ***p-p* Curve:** Production-possibility curve.

2.11 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Type Questions

1. How would you regard economics as a logic of choice?
2. How do you consider economic decision-making is an art as well as science?

Long Answer Type Questions

1. Analyse the economic problems relating to scarcity and choice of means in the decision-making process.

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Chapter 3 The Basic Competitive Model

Learning Objectives:

By the end of reading this chapter, the learners would be able to:

- Understand the meaning of market
- Pinpoint various types of markets
- Appreciate perfect competitive market model

Structure:

3.1 INTRODUCTION

The market is a set of circumstances where buyers and sellers interact with one another in order to transact business. The structure of the different market conditions varies. Buyer and seller behaviour is impacted by various market configurations (firms). Furthermore, various market structures have an impact on various pricing and trade volumes.

Check Your Progress

1. What do you mean by the market?

3.2 THE BASIC COMPETITIVE MODEL

Basic competitive model relates to provide the answer to the question of control problem of an economy, *i.e.*, who make decisions about what to produce, how to produce and for whom to produce. The economic society's productive resources are held by people and businesses in a free market economy.

The fundamental competitive model in economics considers a free market economy where businesses' primary goal is to maximise profits and consumers are assumed to be well-informed. As such, the commerce are rational as self-interested in seeking maximum satisfaction in buying activity.

The control dilemma of an economy, or who decides what to create, how to produce it, and when to produce it, is addressed by basic competitive models. Under a free market-economy productive resources are owned and employed by both people and companies. As a result, a market economy recognises and upholds property rights, which are the rights governing the ownership, use, and disposal of the resources, goods, and services created with their assistance.

3.3 BASIC ASSUMPTIONS AND FEATURES OF COMPETITIVE MODEL

3.3.1 Rationality: Consumer's Self-interest

The consumer makes a rational choice under the given family income budget.

- Given their financial constraints, customers make rational choices by seeking to maximise their level of satisfaction or acting quickly and consistently.
- The opportunity set of goods and services will be taken into consideration due to the budgetary restrictions.
- The combination of goods and services that consumers can buy with their available funds, taking into account their relative pricing, is an opportunity set.
- According to the rationality assumption, the consumer would make choice thoughtfully to perceive the self-interest and satisfaction.

Check Your Progress

2. State the basic assumptions of competitive model.
3. What is meant by opportunity sets?

3.3.2 Profit-maximising Firms

It is assumed in economic analysis of firm's behaviour that the firms tend to pursue their self-interest in making choice. Generally speaking, rational business behaviour entails deciding what products to make, in what quantities, and how, all while being motivated by the goal of profit maximisation. Firms in the production activity do face the constraint of limited resources. Hence, they need to economise, *i.e.*, make rational choices.

3.4 COMPETITIVE MARKET

In the fundamental competitive model, neither the firm nor the consumers individually possess any market power to influence the price and the goods they wish to sell and purchase, because the interaction of market forces determines the competitive pricing. In the fundamental competitive model, neither the enterprises nor the customers have the authority to control the pricing of the goods they are selling and purchasing. Every business and customer is a price taker.

There are numerous buyers and sellers in markets where perfect competition is anticipated. No one has any control over the price level. Under perfectly competitive situation, each firm and consumer is a price-taker. Market at large is the price-maker.

3.5 FACTORS IN FUNCTIONING OF MARKET ECONOMY

3.5.1 Property Rights

The ownership, use, and disposal of resources, goods, and services are regulated by a number of laws. Privately owned property comes in a variety of forms that people and businesses might own.

1. **Real Property:** Land, building, computer, equipment, machinery, etc.
   - All producers have profit as their main driving force for producing goods and services.
   - Profit provides incentive to produce by firms and individuals with efficiency.
   - People can learn about the relative scarcity of various products and services by the price of those goods and services.
2. **Financial Property:** Shares, bonds, bank deposits, etc.
3. **Intellectual Property:** The product of creative effects such as books written by the authors, audio, painting, etc.

3.5.2 Attributes of Property Rights

The main attributes of the property rights:

(i) Owner's freedom to use it anyway he pleases.

(ii) Right to sell.

(iii) Property rights are human rights.

(iv) Right to delegate

(v) Right to rent

(vi) Right to exchange

(vii) Right to inherit

The fundamental purpose of property right is it eliminates destructive competition for control of economic resources.

The government restriction on private property rights in certain cases reduce contribution based on monetary exchange for goods and services, and increase contribution based on personal characteristics.

- Private property rights are not absolute in the modern times. Yet, private property rights are essential human rights.
- Property rights should be viewed as socially significant.

Check Your Progress

4. Mention the types of property.
5. State the attributes of property right.

3.6 PROPERTY RIGHTS THEORY

It investigates how giving stakeholders ownership of any factor of production or good—aside from land—will boost an economy's efficiency since the benefits of doing so outweigh the costs. People are encouraged to engage in economic activities like investment, innovation, and trading when property rights are upheld, which improves the functioning of the market. The significance of property rights in a democratic country's path of economic growth should be recognised with confirmation in the interest of augmentation of socio-economic welfare. Important criteria for efficiency of property rights are:

(i) Universality: The people are the owners of all limited resources.

(ii) Exclusivity: Exclusive rights apply to property.

(iii) Transferability: This can guarantee that resources are typically distributed between low- and high-yield uses and operations.

According to technological advancement (TECHAD), it is a major problem of the modern day for the government to enforce property rights to ensure efficient use of all resources.

3.7 PROFITS AND PRICES: INCENTIVES AND INFORMATION

- Without enough government incentives or incentives available in the market economy, businesses won't generate goods and services and run the risk of losing money in the event of failure.
- Profit basically depends on the cost of producing goods and services as well as their pricing. In symbolic terms, $\pi = P - C$.

  where, π stands for profit, P for price and C for cost. Businesses are the price-taker and have no individual control over the price, just like in perfect competition. By using resources to their fullest potential, the company can maximise profit while minimising manufacturing costs.
- Profits therefore act as a motivator for the company to create effectively.

- The foundation of a price system or price mechanism assures that people and businesses who are able and willing to pay for commodities will receive them.
- Prices give businesses insight into how consumers value and desire to purchase a thing.
- Profits and prices in a competitive market provide incentives and information to the producers and consumers.
- If sufficient earnings possibilities are not-found the producers will not work of produce. Profits propogates production of goods and services undertaken by the providers.
- Businesses are primarily concerned with how consumers value various goods and services, to determine their activity.
- Pricing correctly is essential for a business to wage the fastest and most successful battle for maximum profit.
- Profits can increase more quickly with the proper price than with a higher production volume.
- Managing right price performance is the most fundamental managerial function in the profit-making process of production and marketing.
- The leverage and pay off of improved pricing are high pricing is one function that a firm can be in a position to improve as needed.
- Pricing issues are seldem simple. They are diversified and intricated in a big way.
- Pricing depends on the product market strategy. Looking into how do customers perceive the product in terms of utility, package outlook, so on.
- In a perfectly competitive model, individence consumers have no buyer power in price determination for the product.
- In a market model with perfect competition, a producer has no supplier power to affect the product's price.
- In short in the competitive model products being homogeneous, there exists no supplier or buyer power, as all goods are alike.
- Consumer is a price taker. So, producer is also a price taker in a competitive model of perfect order.
- Entry and exit for buyers and sellers are simple.
- Under perfect competition, every seller is fully informed about the market's operation, including prices, technology, and operations.
- When goods are not identical, market is not perfectly competitve.

3.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. In order to exchange goods and services, buyers and sellers engage in a set of economic conditions known as the market.

2. Basic assumptions of the competitive model are:
   (i) Consumer is a rational being.
   (ii) Consumers serve self-interest in buying gesture.
   (iii) Firm's main motive is profit maximisation.
3. The mix of goods and services that customers can purchase with their current income and which correspond to the relative prices of those goods and services is referred to as an opportunity set.
4. There are three major types of property:
   (i) Real property: Land, etc.
   (ii) Financial property: Bonds, deposits, etc.
   (iii) Intellectual property: Book written by the authors.
5. Main attributes of property rights:
   (i) Right to use it by the owner
   (ii) Right to sell
   (iii) Right to rent
   (iv) Right delegate
   (v) Right to inherit
   (vi) Right to exchange
   (viii It is a human right

3.9 SUMMARY

- The market is a set of conditions wherein sellers and buyers interact for the purpose of exchange.
- The fundamental competitive model is an economic theory that combines the presumptions of perfectly competitive marketplaces, profit-maximising firms, and customer self-interest.
- The fundamental competitive model in economics refers to a free market economy where consumers are knowledgeable about the market and the firm's motivation is profit maximisation.
- The consume behaviour rests on rational choice making in buying.
- The competitive market pricing cannot be influenced by a single buyer or seller.
- This model implies that there is a free flow of economic acts in the market economy and economic society.
- The buyers are usually on a constrained budget asserting. A rational choice.

3.10 KEY TERMS

- **Market:** A combination of circumstances that allow consumers and sellers of a product to interact for the exchange of goods.
- **Competitive Model:** In a free market economy, businesses have the goal of maximising profits, and consumers want to be as satisfied as possible.
- **Rational Behaviour:** Thoughtful behaviour towards maximum gain.

3.11 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Type Questions

1. Define basic competitive model.
2. What is meant by the property rights?
3. What do you mean by a rational choice?
4. Indicates the role of incentives and information to the producers.

Long Answer Type Questions

1. What are the basic assumptions of a competitive model?
2. Describe the main features of competitive model.
3. Expose the property rights theory.

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Chapter 4 Prices, Property Rights and Profits: Incentives and Information, Rationing and the Basic Idea of Opportunity Sets

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Understand the determination of market price under perfect competition
- Know the meaning of profit
- Explain the role of profit maximisation
- State the reality of business in the course of profit maximisation

Structure:

4.1 INTRODUCTORY REMARK

Market Economy is the kingpin of modern capitalism or a capitalist economy.

4.2 PRICE

- Price refers to the amount of money to be paid for purchasing a specific item on the market.
- The product's value is reflected in the price.
- Price indicate the cost at which something is obtained.
- Price refers to what is asked for goods or services.
- Big Bazaar or supermarkets may be offering a big price discounts.
- People may exclaim, after COVID, now the restaurants are charging shockingly high prices for its food and beverages.
- Some shops offer a big discount on prices of certain products.
- Staff loyalty is a phenomena that one cannot really put a price on.
- The price of PCs have gone down recently.

4.3 CONCEPTS OF PROFIT

Profit is typically regarded as the difference between a company's total revenue from sales proceeds of a particular output and its cost of production. Symbolically,

$$\pi = R - C$$

where, π = profit, R = total revenue, and C = total cost

When $R > C$ and $R - C$ is a positive value, it is called profit. If, however, $R < C$ and $R - C$ is negative, it is called loss. This is the interpretation of the term 'profit' in the accounting sense. But, when an economist calculates total cost, he includes all explicit as well as implicit costs. Economists have, therefore, two distinct notions of profit: (*i*) normal profit and (*ii*) supernormal profit.

4.3.1 Normal Profit

It refers to the earnings that are just right to persuade the company to remain in the sector. Thus, normal profit is the minimal logical level of profit that an entrepreneur needs achieve over the long term in order to be persuaded to continue using his resources in their current form. The opportunity cost of entrepreneurship is normal profit. It is comparable to the entrepreneur's transfer earnings.

Normal profit is always considered to be one of the costs of the factor. The price paid for entrepreneurial service is the normal profit and must be taken into account when determining the total cost because it is a factor of production. Of course, the implied cost in terms of money is usual profit. As a result, in an economic sense, the total cost (C) includes the firm's typical profit when it is measured. As a result, it will typically be assumed that there is no profit when R = C. Though we might assert that there is no pure commercial profit in the economic sense, there is regular profit, which is already included in the whole cost. It must be kept in mind that the entrepreneur seeks a regular profit of a fixed amount that is unrelated to productivity. Normal profit is a fixed implicit cost element, therefore. Evidently, total normal profit, such as TFC, spreads across the range of production

when output increases. This affects how the average cost curve (AC), as depicted in Fig. 4.1, is shaped.

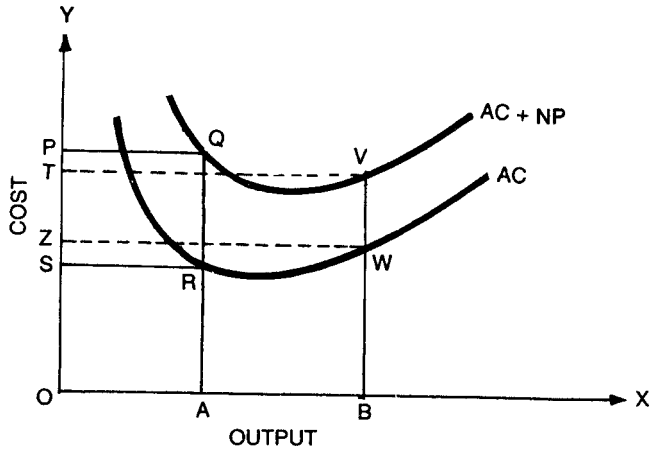

Fig. 4.1: Normal Profit and *AC* Curve

In Fig. 4.1, we have drawn two AC curves in the manner of Stonier and Hague (1966), one without the normal profit cost element (AC) and the other with it (AC + NP). It can be seen that the vertical distance between the AC and AC + NP curves tends to steadily decrease as we move from left to right. This suggests that normal profit per unit of output decreases as output grows. At all output levels, the overall usual profit stays the same. Geometrically speaking, the average normal profit is thus QR when output is OA. The average normal profit decreases to VW as output increases to OB. In the first situation and the latter, the total typical profit is PQRS and TVWZ, respectively. PQRS, though, equals TVWZ. The difference between the AC + NP and AC curves represents normal profit.

4.3.2 Supernormal Profit

Profits that are higher than the average profit are known as supernormal profits. Supernormal profit is obtained when total revenue exceeds total costs (i.e., TR > TC), since normal profit is accounted for in the cost of production. Additionally known as "excess profit," it is pure corporate profit.

Supernormal profit is dependent on the business's unpredictable and erratic demand conditions. Supernormal profit is the compensation for assuming business uncertainty and unpredictability risk.

Check Your Progress

1. What do you mean by profit?
2. Explain the economic concept of normal profit.

4.4 RULE OF PROFIT MAXIMISATION

4.4.1 Profit Maximisation

When a corporation shows no signs of wanting to increase or decrease its output, it is considered to be in equilibrium. Such a situation will arise after the company maximises its residual profits. The gap between entire revenue and total

expense is what is known as residual profit. As a result, the company will reach equilibrium when the difference between its total revenue and total cost is maximised. The behavioural rule of profit maximisation or the equilibrium output of the firm is explained by the Marginal Revenue-Marginal Cost equality approach (*MR* : *MC* Approach). Comparing marginal cost (MC) and marginal revenue (MR) for each subsequent unit of production, as opposed to total revenue (TR) and total cost, is an insightful and practical way to figure out a firm's equilibrium output (TC). The marginal cost-marginal revenue (*MR* : *MC*) approach clearly shows the behavioural role of profit maximisation utilising the price as a specific variable.

Essentially, the *MC* : *MR* approach is the corollary of the *TC* : *TR* approach. According to the *TR* : *TC* approach, at equilibrium or profit maximising level of output, the slope of *TR* curve = slope of *TC* curve. The slope of *TR* curve, *i.e.*, $\frac{\Delta TR}{\Delta Q}$ *TR* is the marginal revenue (*MR*); and the slope of the *TC* curve, *i.e.*, $\frac{\Delta TC}{\Delta Q}$ is the marginal cost (*MC*). This means, *MR* = *MC*. Hence, the profit maximising condition may be stated as the output rate at which TR and TC diverge by the most, also known as the point at which MR = MC. Let's take a look at a greatly reduced case study of a fictitious company operating under perfect competition. Assuming the prevailing market price to be ₹ 10 per unit, its revenue and cost data are presented in Table 4.1.

Table 4.1: Revenue, Cost and Profit of a Hypothetical Competitive Firm

Market Price ₹ per unit (*P*)	Units of Output Sold (*Q*)	Total Revenue (₹) (*TR* = *PQ*)	Total Cost (+) (₹) (*TC*)	Profit or Loss (–) (₹) (*TR* – *TC*)	Marginal Revenue (₹) (*MR*)	Marginal Cost (₹) (*MC*)
10	0	0	10	–10	0	0
10	1	10	16	–6	10	> 6
10	2	20	20	0	10	> 4
10	3	30	21	+9	10	> 1
10	4	40	22	+18	10	> 1
10	5	50	25	+25	10	> 3
10	6	60	30	+30	10	> 5
10	7	70	37	+33	10	> 7
10	8	80	47	+33	10	= 10
10	9	90	61	+29	10	< 14
10	10	100	81	+19	10	< 20

The requirement for output profit maximisation and firm equilibrium, according to the marginal revenue and marginal cost approach, is equality between the firm's marginal revenue (MR) and marginal cost (MC). This means that a company will continue to increase its output as long as every extra unit produced increases total revenues over and above what it increases total expenses. The company definitely won't build a unit that increases costs over revenues because doing so would result in a loss for the company. In other words, by increasing output to the point where the marginal revenue just touches the marginal cost, the

firm will increase profits. Producing an output that is either lower than this or higher than this will be detrimental to the company, because then its total residual profits will be less than maximum.

When a company generates an amount of production at which the marginal cost and marginal income are equal, it is said to be operating in equilibrium. This point is made clear in Table 4.1.

Thus, the equilibrium point is the intersection point of the *MR* curve and the *MC* curve, as shown in Fig. 4.2.

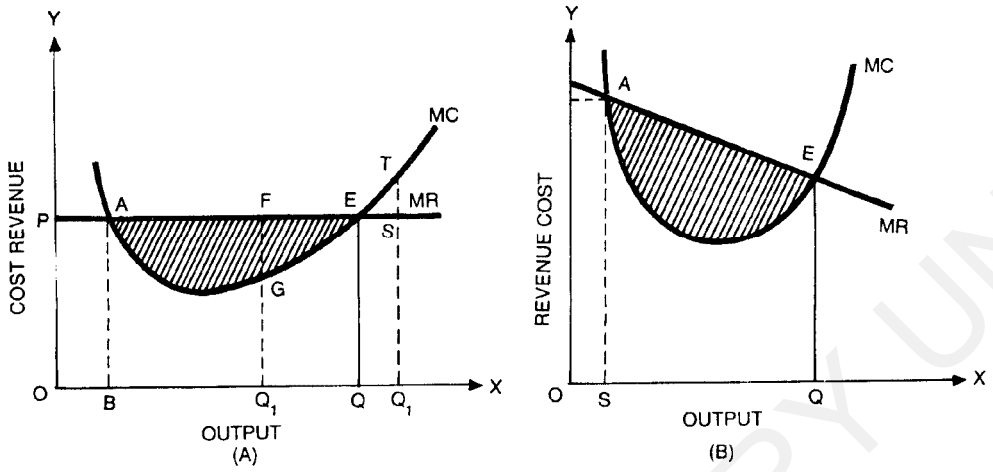

Fig. 4.2: Economic Behavioural Rule of Profit Maximisation

In Fig. 4.2, the marginal revenue curve (*MR*) and the marginal cost curve (*MC*) are both graphs. At position E, *MC* crosses *MR* from below. When the output *OQ* is created at point B, *MC* = *MR*. *OQ* is the output that achieves equilibrium and maximises profitability. In a diagram, the region beneath the *MR* curve represents the output's total revenue, and the area beneath the *MC* curve represents its whole cost. Thus, the area *AGEF*, which is the profit area, serves as a gauge for measuring the difference between *TR* and *TC*. The region is created when the firm creates output at the *OQ* level when *MR* = *MC* and earnings seem to be at their highest. Supposing the firm is producing less, say, up to OQ_1, then by increasing output further, the firm is in a position to add to its total profit, measured by the area *FGE*, because *MR* > *MC*.

Profit is maximised when *MR* = *MC*. Thus, equilibrium point is determined where *MC* curve intersects *MR* curve from below. The addition to total profit is possible until *MR* = *MC*. The firm will make profit by increasing its output so long as its *MR* > *MC*. Once *MR* = *MC*, further production means *MC* > *MR*. As shown in the diagram, when the firm produces *OQ* units of output *MC* > *MR*, *i.e.*, loss amounting to the area *EST*. Apparently, to produce up to OQ_2 level of output is not a paying proposition for the firm and it will find it advantageous to reduce the level of output back to *OQ*. Thus, the point at which *MR* = *MC* is the maximum profit position; it is the equilibrium point. Again, for the firm under perfect competition, *MR* = Price. Thus, either *P* = *MC* or *MR* = *MC* is the equilibrium condition.

Check Your Progress

3. State and explain the economic rule of profit maximisation.

4.5 THE REALITY OF THE PROFIT MAXIMISATION RULE IN PRACTICE

Economic theory implies that decision-making for profit maximisation goal of the firm is simple enough: it is achieved when marginal cost and marginal revenue become equal. Does this mean that, in reality, the business firms do measure the marginal costs and marginal revenues, and determine their output level? In actual practice, most business firms are, however, unaware of these economic concepts. Though economic theory is logical in suggesting *MC* = *MR* approach to profit maximisation, it does not describe in reality the problem which actually works for the profit-making decision of the business firm in the real world. Nonetheless, one should not jump to conclude that economic theories are totally unrealistic and have no applicable use. In defence of economic theory in this regard, one may say that theory is generally never intended to be descriptively realistic. The fruitfulness of the theory is to be evaluated, by and large, by the accuracy of its conditional predictions — under the framework of its model.

Check Your Progress

4. What is the reality of this profit maximisation rule?

4.6 PROPERTY RIGHTS

Right to hold private property is the main ideological feature of capitalism lingering on a system of free enterprise economy. The capitalist economy runs on the wheels of markets characterising complete economic freedom of consumption are production activity. Fundamentally, there is least government interference in the conduct of economic activity in capitalist society. It follows that the people in a capitalist economy have free choice of consumption. There is unrestricted sovereignty in respect of consumption. As such, it is labelled as the free enterprise economy.

People of capitalist society eventually confess full-fledged right of holding private property to its members. A welfare-seeking government in a country has to focus on the designing of the policy measures that provide 'human rights' as well as 'property rights' to the people for a happy living.

Check Your Progress

5. Examine the property right phenomenon in a capitalist society.

4.7 INCENTIVE AND INFORMATION, RATIONING

The governments' rules and legal systems in the country is key to aligning both social interest and the success of corporations, even the SMEs as well, in their business pursuits. Corporate success depends on the transparency and strength of such legal systems. A welfare-oriented economy needs better product standards self-endorsed by the firms, as also by rigorous third-party checking.

Indeed, the country always need a creative structure around corporations – these are great drivers of innovation, progress, growth and profits. Economic

incentives offered by the government agencies have their beneficial effects moves towards the industrialisation of the economy.

As Milton Friedman had mentioned the social responsibility of business is to act in conformity to the basic norms and rules, rationing and ethical custom along with the profit maximisation goal. In this regard, the government's responsibility in a country is to create good rules to check, but allowing more freely people to work, innovate and undertake ensuing economic activity. Of course, the rules and regulations should permit the energies of companies to thrive together with providing properly enough safeguards for customers, employees and other stakeholders, along with strengthening of the related institutions.

People – producers and consumers – including the government as well, must prioritise expediency and short-term gains, as having a finite professional lives, without considering the consequences much, since in the long run we are all dead. Create strong institutions dedicated to the general welfare of the community 'Live and let live' motto matters much. In short, all rules, incentives, informations, and rationing and allocation of resources towards economic and social betterment enacted by the various agencies – public and period – must be strictly welfare-oriented.

4.8 OPPORTUNITY SETS

In economic analysis, the opportunity set or a budget set refers to the set of all possible consumption bundles that the consume can afford taking as given the prices of goods available against the consumer's income.

- Assuming the products available to the consumer in an economy in a finite number equal to n.
- Thus, for product consumption plan with associated prices under the given manageable incomes, we may state

  $X = [x, x_2, x_3, ..., x_n]$, and $P = [P_1, P_2, P_3, ..., P_n]$ correspondingly.
- Assuming consumer income m, the budget set of consumption may be defined as:

  $\beta_{p,m} = \{x \in X : P_x \leq m\}$, where, the consumption set is taken as: $\boldsymbol{X} = \boldsymbol{R_t^k}$

  It is typically assumed that the $P > > 0$ and $m \in R_t$. In that case, β is termed as the competitive budget set.
- The consumer budget set is having the boundaries of n-dimensions. Budget hyperplane featured by the equation $P_x = n$.
- This in two-goods model corresponds to the budget line.
- In economic theory, the concept of budget constraint and performance may be taken as a tool to examine.
- A set of all bundles that perfectly devour the consumer's income at a certain price is referred to as a budget constraint – suggested through budget line.
- An affordable set refers to the bundles that lie on or below the budget line.

- Point outside the price line or budget line is unaffordable under the given income.
- $P_aA + P_bB = M$ equation denote consumer's spending on goods A and B. with income level M.
- The equation solving implies:

$$B = \left(\frac{M}{P_b}\right) - \left(\frac{M}{P_a}\right) A$$

- The consumer budget shifts in relation to the price change or the income change.
- One may also think of preference ordering in this regard, such as: A may be preferred against B, or B is preferred against A, or A and B both products are equally attractive to the consumer.
- Anyway, the more-is-better always. It means the more amount a product is usually preferred against the less quantity that can be acquired under the current income and pricing conditions.
- There can also be an element 'transitivity' – which is a consistency property of the behaviour. Also, convexity profile – meaning a mixture of goods preferred.
- There can be a 'trade-off' between two goods – one good for another. Here, one may think of an indifference curve in presentation.
- The fundamental principle of economics is that every choice among alternatives imply an opportunity cost. The law of declining marginal utility is related to preference decision-making as well.
- Indeed, in the real world, people's desires usually exceed against what is possible to get.

4.9 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Profit is maximised at the point of equality between marginal revenue and marginal cost (Refer Fig. 4.2).
2. Business people wants profit in reality do not strictly follow the economic rule: $MR = MC$.
3. Please refer this point 4.4
4. Please refer this point 4.5
5. Please refer this point 4.6

4.10 SUMMARY

- Demand and supply factors in the market interact to determine the market price. The Marshallian theory of value made three distinctions in terms of analysis: market period price, short period price, and long period price.
- The term "normal price" is used to define the long-term cost.

- The market price, tends to move around the long-run normal price.
- When a company's total revenue exceeds its total costs, a profit results.
- The opportunity cost of entrepreneurship is normal profit.
- When the marginal cost (MC) and the marginal revenue (MR) are equal, profit is maximised (MC). The difference between total revenue (TR) and total cost (TC) is now at its largest.

4.11 KEY TERMS

- **Market Period:** Very short period.
- **Market Price:** Market period price.
- **Normal Price:** Long period price.
- **Profit:** Total Revenue *minus* total cost.

4.12 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Distinguish between:
   (a) Market Price and Normal Price
   (b) Normal Profit and Supernormal Profit

Long Answer Question

1. Examine the *MR* = *MC* rule of profit maximisation and its reality.

4.13 REFERENCES

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Chapter 5 Economic Systems

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Understand Capitalism, Socialism and Mixed Economy
- Know communism among the system
- Examine the drawbacks of each economic system

Structure:

5.1 INTRODUCTION

Economic system of a country provides its broad economic environment. We shall attempt to address following issues:

- Characteristics of the capitalist system and how it works.
- Salient features of the socialist economic system and how the system limits the scope of private business.
- Characteristics of the mixed economy and how its working suffers from various problems.

5.2 CAPITALISM

Presently, a large number of countries of the world notably the USA, Japan, Germany, France, the UK and Italy have the capitalist economic system.

According to Cole, "Capitalism is that profit-oriented system which is characterised by private ownership of objects of labour, instruments of labour and means of labour. Production is mainly carried out with the help of labour services rendered by the working class in return for wages and the class of capitalists has the right to whatever output is produced within the system."

5.3 FEATURES OF CAPITALISM

Basically capitalist in nature and are distinguished by the following key characteristics:

1. **Private ownership of means of production:** The private ownership of the means of production is one of the most fundamental aspects of capitalism and it is this fact which distinguishes it from socialism. Under the capitalist system, the capitalist class owns everything that aids in the creation of goods such as machinery, tools, land, raw materials, etc. The capitalists with the help of the means of production which they own do not themselves undertake material production.
2. **Production for the market:** One significant distinction between a capitalist economy and other economies is that under capitalism, production is primarily directed toward the market by commercial entities. Any good that is created for the market is known as a commodity, and any economy in which production is carried out with exchange as the only goal is known as a commodity economy.
3. **Price mechanism:** In a capitalist economy, neither an individual nor an institution makes deliberate judgments about how it conducts itself on a daily basis, i.e., there is no conscious effort made to find a solution to the system's main challenges.

   The price system regulates the capitalist economy. In other words, the price system provides a solution to the fundamental issues of what to produce, how to produce, and for whom to produce.
4. **Labour power as a commodity:** The fact that human labour becomes a commodity and can be purchased and sold just like any other is a key aspect of the capitalist economy. In a capitalist society, the vast majority of people simply possess their labour power, or ability to work. No of the type of economy, man has always had his labour force. But what distinguishes the capitalist system from the rest in this particular aspect is that capitalism alone allows the labour power to acquire the form of commodity, and thereby to be bought and sold in the market. Like any other good or service, labour power commands a price that is equivalent to the cost of those commodities which are essential for the maintenance of the workers.

5. **Exploitation of labour:** Capitalism leads to the exploitation of workers. Many individuals frequently have the false impression that workers can negotiate a fair price in the free market in exchange for their labour because of the formal freedoms offered to them. The truth of the matter is, however, greatly at variance from this view. Not only did Marx shed light on the exploitation of workers in the capitalist system but also Joan Robinson, has explained how under imperfect competition in the labour market, business firms determine the wage rate of workers well below the marginal productivity of labour.
6. **Growing wealth of the capitalists:** The wealth of the capitalist class consistently rises in a capitalist society. Under capitalism, generally, every firm makes the utmost effort to eliminate every other firm which behaves as its competitor from the market in which it operates. Since the competition does not show any leniency towards anybody, a firm which loses out to others in the game of competition is destroyed and its market share captured by successful ones. In this way, only a handful of firms manage to survive in every industry, and with them, large wealth is concentrated. This concentration of wealth is the universal law ruling all capitalist economies. The second method by which wealth is accumulated by the capitalists is through exploitation of workers. If capitalists do not do so, their present stock of wealth will deteriorate.
7. **Emergence of the working class:** The class of workers, under capitalism not having access to any means of production, is totally dependent on the capitalist class for its livelihood. The freedom enjoyed by the working class is only at a formal level. The workers are now tied with invisible bonds to their masters and have to bear punishment if they show disregard for the orders issued to them. Under capitalism, a rise in the usage of machinery results in widespread unemployment and a rise in the rate of worker exploitation, which indicates a progressive fall in the proportion of workers' income that goes into the national income.

Check Your Progress

1. Define Capitalism.
2. Trace the features of capitalism.

5.4 MERITS OF CAPITALISM

1. **Increase in production:** A wide range of products and services are produced under capitalism. The productions have increased significantly.
2. **Raise in standard of living:** Capitalism has also succeeded in raising the standard of living to great heights. Today, people in the capitalist countries have more income, better food, more leisure, more comforts and luxuries. The capitalist society has become an affluent society.

3. **Competition and economic efficiency:** Capitalism is based on the principle of competition. There is competition among the producers, consumers and owners of the factors of production. In every walk of economic life, competition is the secret of economic efficiently.
4. **Incentive for hardwork and efficiency:** Under capitalism, the entrepreneurs are induced to work hard. They work more efficiently to earn higher profits. Workers will earn more if they work hard and efficiently. The entire manpower resources tend to be efficient.
5. **Consumer's sovereignty:** Consumer is said to be the king under capitalism. His whims and fancies dictate the terms to the producers. He consumes what he likes, but not what is supplied to him by the producers.
6. **Freedom:** Capitalism is founded on the principle of freedom. Thus, there is freedom of production, consumption and enterprise. There is freedom to save and invest. There are also political, social and cultural freedoms. And also, everyone enjoys the freedom of speech and press. According to many, capitalism is the backbone of democracy.
7. **Optimum utilisation of resources:** Under capitalism, the limited resources will be put to the best use to derive maximum satisfaction. So, there is no scope for wastage of resources.

5.5 DRAWBACKS OF CAPITALISM

1. **Economic Inequality:** Income and riches are distributed inequitably under capitalism. The wealthiest get riches as the poor get poorer.
2. **Trade cycles:** Trade cycles are the greatest weakness of capitalism. The basic institution or capitalism, *viz*., competition, profit motive and economic freedom cause trade cycles. The ups and downs in business.
3. **Exploitation of labour:** Under capitalism, labourers are exploited. Their wages tend be less than their productivity.
4. **Wastage of resources:** Competition is the key factor in capitalism. Much valuable resources are wasted on advertisements and salesmanship. Competition results in unnecessary duplication of staff and equipment.
5. **No social welfare:** Under capitalism, production is carried with profit motive. So, only such goods and services which provide higher profits will be produced. Production is carried on to satisfy the needs of the rich.
6. **Myth of consumer's sovereignty:** Consumer's sovereignty becomes just a myth. Most of the consumption choices are guided by advertisements and sales propaganda. They have to consume only those goods which are produced by the producers, and pay high prices even for interior goods.
7. **Class conflict:** Under capitalism, the rich producers want to become more rich at the expense of the labourers. The poor labourers want more wages. There exists a class conflict between haves and have-nots.

8. **Monopoly:** Capitalism breeds monopoly. Monopoly is responsible for many evils. Consumers are charged higher prices. The quality of the product suffers. Workers are exploited. High unemployment.
9. **Improper allocation of resources:** Capitalism cannot allocate its scarce economic resources properly because under profit orientation producers produce would prefer to goods commanding a a high price, as a result, resources are used to produce luxuries instead of necessities.

Check Your Progress

3. State the merits of capitalism.
4. Indicate the demerits of capitalism.

5.6 SOCIALISM

According to Paul M. Sweezy, "Socialism is a complete social system which differs from capitalism not only in the absence of private ownership of means of production but also in its basic structure and mode of functioning." In contrast to capitalism, a socialist society does not rely entirely on the market process to determine the types and quantities of different commodities produced, their relative importance, and the necessary distribution of resources. The scope for private business is non-existent in a socialist economy.

The socialist system was established first in Russia after the Communist Revolution in 1917.

Check Your Progress

5. Define socialism.

5.7 FEATURES OF SOCIALISM

1. **Social ownership of the means of production.** *Private ownership of the means of production is outlawed across the board in a socialist society.* It is only in the transition period that some amount of private property is allowed because it is not possible to transform completely the capitalist mode of production into the socialist one immediately after the socialist revolution.
2. **Predominance of public sector:** *The existence of the public sector, which is based on the idea of social ownership of the means of production, is a crucial prerequisite for the formation of socialism.* In the economic system prior to socialism, it is possible for one type of private sector to co-exist with another type of private sector for long periods of time.
3. **Decisive role of economic planning:** *In a socialist economy, economic planning serves the same purpose as the pricing system does in a capitalist one.* In other words, the Planning Commission must find solutions to the fundamental issues of what to produce, how to produce, and for whom to produce.

4. **Prices play a secondary role in the working of a socialist economy:** Prices are set by the Planning Commission on the basis of historically given prices and thus are not arbitrarily determined.
5. **Production guided by social benefit:** The Planning Commission in a socialist country takes into consideration the social aspect and the development related goals of the nation while choosing the technique production to be used.
6. **Abolition of exploitation of labour:** In a socialist system, the working class jointly owns the means of production, allowing the populace to employ these tools of the trade for their own betterment.

5.8 ADVANTAGES OF SOCIALISM

1. **No trade cycles:** There is no scope for trade cycles in socialism. As planning authority is in charge of directing production and distribution., there will be no ups and downs in economic activity, namely, prices, wages, employment etc. There will be economic stability.
2. **Optimum utilisation of resources:** The economic resources available in the country are put to the best use. Resources are allocated only to the essential and productive activities. Unlike capitalism, necessaries will be preferred to luxuries. Service motive is more important than profit.
3. **Social security:** Socialist provides social security to its citizens. Capable workers are given jobs. Every citizen is provided with minimum requirements like food, clothing, shelter, medical aid and education. Nobody suffers from hunger or find for want of job.
4. **Equal opportunities:** In socialism, all will have equal opportunities, irrespective of sex, caste, creed, religion and position in the society in political, economic and cultural matter.
5. **Equality of incomes:** In socialism, all will have equal incomes with a slight difference. This will not cause dissatisfaction, but all will have equal opportunities. So, only the able will be in the top ranks.
6. **No monopolies:** Under socialism, there will no private monopoly. State will have the monopoly of all types of production. Equality of income eliminates private monopoly and its evils.
7. **No exploitation of labour:** As state is the owner of all industries, there will be no exploitation of labour. Labourers are given not only good wages but also houses. Profits will be spent for the welfare of labourers.
8. **Greater freedom:** Some argue that socialism ensures greater economic and political freedom for its citizen. People are free from the insecurities like unemployment, sickness, starvation, etc. Socialism provides liberty.
9. **Rapid economic growth:** Under socialism, the task of promoting economic growth is not left to private enterprise or price mechanism. Central planning authority aims at promoting economic growth.

10. **No wasteful expenditure:** In socialism, there is no competition as the government alone owns and runs all industries. Expenditure on advertisements and publicity is very little. No unnecessary and wasteful expenditure.
11. **Social welfare:** In socialist economy, socially desirable goods are produced. Necessaries are given preference against luxuries.

5.9 DISADVANTAGES OF SOCIALISM

1. **Malallocation of resources:** In a socialist system, the Planning Authority divides up the resources among various uses. Any defects anywhere in the planning or implementation affect the entire process of production and distribution. Consumers may have to suffer due to defective planning.
2. **Lack of initiative:** Under socialism, industries are managed by government employees. These people do not possess the necessary skill and efficiency. They may not show much interest and initiative in their work because they are assured of their salaries and promotions, irrespective of their efficiency. So, quick and bold decisions.
3. **Absence of consumer's sovereignty:** In socialism, some restrictions are placed on the choice of the consumers. They have to consume what the state produces for them.
4. **Lack of incentive:** In socialism, private property is not allowed. In the absence of private property, people have no incentive to work hard.
5. **State dictatorship:** In a socialist economy, government takes all decisions without the consent of the people. Freedom of enterprise and consumption does not exist. Government-offered employment must be accepted by the worker. There is every possibility for state dictatorship.
6. **Economic inequalities:** Even in socialist countries, the rich and the poor are separated by a wide gap. The dream of a classless society. Workers under capitalism live a better life than social promise.
7. **Insufficient resources:** In socialist economy, it is said that the government cannot raise the huge amount of capital which is necessary for the efficient and smooth running and expansion of all activities.

Check Your Progress

6. State the merits and demerits of socialism.
7. What are the drawbacks of a socialist economic system?

5.10 MIXED ECONOMY

Samuelson claims that the presence of both public and private organisations that exercise economic control defines a mixed economy. Any economy that combines elements of the private and public sectors, as well as some sort of partial

planning, to support decisions made through market mechanisms is referred to as a mixed economy.

5.10.1 Characteristics of a Mixed Economy

A mixed economy resembles a capitalist economy in more than one respect. This is not surprising because while building a mixed economy, no attempt is made to eliminate the basic characteristics of a capitalist economy. The crucial traits of a mixed economy are, namely, as follows:

1. **Private and State ownership of the means of production and profit-induced private business:** Through constitutional provisions, people have the right to own property in a mixed economy. In actuality, this leads to private ownership of the production equipment. Generally, in a mixed economy, almost whole of cultivable land belongs to individuals and production is done either for self-consumption or for the market. In the industrial sector, a big segment remains in private hands. Although industrial set-up sometimes a sizable amount of industrial output comes from the public sector, the main objective of their activity nevertheless is determined by the requirements of the private sector. This explains why the role of public sector in the mixed economies is supplementary and supportive to the role of the private sector. Profit-induced private sector generally accounts for three-fourths or even more of the material production in mixed economies. Obviously, major part of this production is done for the market and the activities of the producers operating in the private sector are motivated primarily by profit. Only in agriculture, the behaviour of small and marginal farmers may not be responsive to market changes as they usually do not have any marketable surplus.
2. **Decisive role of market mechanism. Market mechanism has a predominant position in a mixed economy:** *Markets for diverse products as well as productive components like labour and capital exist in such an economy.*
3. **Interventionist role of the State:** *In a mixed economy, there may be some state intervention in the market mechanism. Legislative action is frequently made to establish a regulatory framework for the nation's industrial activities.* The system of industrial licensing is evolved and is viewed as an instrument of industrial planning.
4. **Public sector activities are supposedly guided by social benefit:** Modern growing economies have a mixed nature since they have both a sizable state sector and free enterprise company units.
5. **Supportive role of economic planning:** Economic planning is another factor that often creates confusion about the character of certain mixed economies. The mixed economy is viewed by many simply as a variant of capitalism which has a built-in tendency to slide back, and finally, emerge as a pure market economy.

Check Your Progress

8. What is meant by a mixed economy?
9. What are its characteristics?

5.11 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Capitalism refers to the economic system controlled and run by the private sector.
2. Main features of capitalism:
   - Private ownership of means of production
   - Price mechanism
   - Exploitation of labour
   - Class contradiction
   - Profit orientation
   - Restricted role of the government
3. Merits of capitalism:
   - Increase in production
   - Rising standard of living
   - Efficiency in work
   - Consumer sovereignty
   - Economic freedom of consumption and production
   - Optimum use of resources
4. Demerits of capitalism:
   - Economic inequality
   - Business cycles
   - Exploitation of labour
   - Wastage of productive resources
   - No scope for social welfare
   - Myth of consumer sovereignty
   - Class conflicts between 'Haves' and 'Have-nots'
   - Monopoly
   - Misallocation of resources
5. Socialism as an economic system denies the private ownership of the means of production.

   National planning agency draws production and development plans in a socialist economy.

6. Main merits of socialism:
    - Production is guided by social benefits
    - Abolition of exploitation of labour
    - No trade cycles
    - Optimisation of resource use.
    - Equal opportunities to every body
    - Income equality
    - No private monopoly
    - Rapid economic growth
    - No wasteful expenditure
    - Social welfare.
7. Drawbacks of socialism:
    - Malallocation of resources
    - Lack of initiative
    - No economic freedom of consumption and production
    - No incentives
    - State dictatorship
    - Inequalities between commanders and commons
    - Inefficiency
8. Mixed economy is a healthy combination of capitalism and socialism. It implies a blending of profit motive and service motive.
9. Main features of a mixed economy are:
    - Private and state ownership of means of production
    - Co-existence of private and public sector in economic activity
    - Market-orientation supported by pragmatic planning
    - Focus on social benefits
    - Government intervention for corrections

5.12 SUMMARY

- Capitalism came into being after Industrial Revolution.
- Benham defines capitalism as "an economic system in which the means of production are owned by private individuals and the production is carried on by them with the object of making for themselves individual and private gain". Pigou "a capitalist system is one in which the main parts of productive resources are engaged in capital industries".
- The capitalist system exists in USA, Canada, England, Australia, Japan, West European countries, etc.

- In a capitalist system, means of production (factors of production) are being owned by private people and goods are produced by the private firms with profit motive. There is thus freedom of enterprise.
- Producers produce those goods that they can sell. It is determined by the state of demand for goods.
- The price system indicates what and how much goods shall be produced. Consumers thereby get what they want, so freedom of consumption.
- The price mechanism regulates the working of the capitalist system.
- Socialism is an alternative to capitalism.
- Socialism developed as a reaction against the evils of capitalism. The main aim of the socialistic society is to promote welfare.
- There is no complete agreement regarding the exact meaning of socialism. Different writers defined socialism in different ways.
- Under socialist economic plan, "all members are entitled to benefit from the results of socialised planned production on the basis of equal rights".
- The term socialism has been popularised by Karl Marx and his followers.
- Soviet Russia. China, Cuba, Hungary and some of the East European countries are socialist countries.
- There is no private property in a socialist economy. The government owns the production equipment. The state-owned firms manufacture products. A central authority decides what and how much of goods shall be produced. Profit motive is replaced by social welfare motive.
- Price mechanism does not operate consumer freedom is restricted because the state decides what to produce.
- A mixed economy is an economic structure that blends elements of capitalism and socialism. Between capitalism and socialism, it is a compromise.
- Combining the advantages of capitalism and socialism is a mixed economy.
- The idea of a mixed economy is relatively new. J.M. Keynes was responsible for the birth of this system.
- At present, this system is being adopted by many nations in the world. India can be cited as the best example of a mixed economy.
- A mixed economy runs by carefully combining both public and private businesses. Both public and private sectors are assigned the respective roles to promote economic welfare of the society.
- Profit motive and service motive are both blended in this economic system. There will be freedom as well as control over the economy through planning under this system.

5.13 KEY TERMS

- **Capitalism:** Profit-oriented private sector economic system.
- **Socialism:** The economic system politically ordained such that everyone has equal chances to gain wealth and any to own the country's main industries, in reality, under the full direction of the government. It implies collectivism. It is aiming at equatable distribution of wealth.
- **Mixed Economy:** A combination of socialism and capitalism. In a mixed economy both the state and the private enterprises are directly involved in the production and marketing processes.

5.14 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write short notes on:
   (a) Capitalism
   (b) Socialism
   (c) Mixed economy
2. What are the characteristic features of capitalism?
3. What are the main features of a mixed economy?

Long Answer Questions

1. Explain the main features and distinction between capitalist and socialist economic systems.
2. What is a mixed economy? What are the main characteristic features of a mixed economy?
3. How would you regard India as a mixed economy operating nation?

5.15 REFERENCES

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Unit II: Role of Markets, their Functioning and Welfare

Chapter 6 Markets and Competition

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Know the meaning of market.
- Understand the nature of market economy
- State the features of the market economy
- Know the advantages of a market economy
- Mention the drawbacks of market economy

Structure:

6.1 MEANING OF MARKET

- In economics, the term "market" categorically refers to a market for a commodity or commodities such as a wheat market, a gold market, etc.
- So, to an economist, when he thinks of a diamond market, it does not imply just Zaveri Bazaar in Mumbai. He considers that how much quantity of diamonds is being sold or available in the country as a whole.
- Thus, in an economic sense, a market is described as a situation in which buyers and sellers interact frequently, either directly or indirectly, to buy and sell products in return for money.
- Since market is an economic term, it refers to the entire domain in which supply and demand operate. It speaks of the circumstances and business ties that make transactions between buyers and sellers possible.
- Any setting where items are sold and bought is referred to as a market. There may be a number of prospective buyers and sellers in various places – but an economic arrangement causing their contacts for transactions constitute the market.
- Markets may be easily recognised by their physical location, such as the cutlery market on Jumma Masjid Street in Mumbai. Stock market at stock exchange.
- Geographically speaking, the markets are divided into four groups: (i) local markets; (ii) regional markets; (iii) national markets; and (iv) global markets.
- Local markets are a part of the neighbourhood. Retail trading is executed in local markets, based on a small scale. Restaurants, tea stalls, grocery stores, etc. are confined to local markets in the conduct of business.
- Regional markets attached to a particular region only. Say, Marathi films of small producers are released usually in the territories of Maharashtra. Likewise, Gujarati films in Gujarat and Bengali films in Bengal on theater basis.
- National markets have nationwide coverage. Fans, vanaspati ghee, cosmetics, and other items made by large corporations with their brand trademarks tend to capture national markets.

- World markets or international markets imply a business pursuits of multinational companies (MNCs).
- In international markets, selling act is called 'export' and buying is called 'import' as the transactions are between people of different nationalities.
- Markets are divided into three categories according to their duration: (i) Very short period market; (ii) Short period market; and (iii) Long period market. Therefore, in their argument, the price of a product is divided into three categories: the market price, the short-term price, and the long-term price, or normal price.

6.2 TYPES OF MARKET STRUCTURES FORMED BY THE NATURE OF COMPETITION

Traditionally, the primary criterion for identifying various market structure types has been the form of competition. In various market conditions, the levels of competition among suppliers and buyers may differ. Two key factors, including (i) the number of enterprises in the market and (ii) the features of the items, such as whether the products are homogeneous or differentiated, are used to analyse the type of rivalry among the sellers.

These two elements are essentially what determine an individual seller's influence over the market supply and his grip on price setting. The following sorts of market structures are typically identified on the selling side or supply side of the market: (i) Monopoly, (ii) oligopoly, (iii) perfect competition, and (iv) monopolistic competition are the four economic models.

The two extremes of market conditions are monopoly and perfect competition. Between these two extremes are other market structures including oligopoly and monopolistic competition. The market conditions characterised by imperfect competition include oligopoly and monopolistic competition.

Check Your Progress

1. Define market.
2. Which form of market is a theoretical ideal in consideration?

6.3 PERFECT COMPETITION

When vendors and buyers engage in the most ideal kind of competition, this is referred to as perfect competition. In a market with perfect competition, the commodity has a single market price that is established by the forces of the market's whole supply and demand. Every participant (seller or buyer) in perfect competition is a price-taker. Everyone must accept the current market pricing because no one, acting alone, can change it.

6.3.1 Conditions or Characteristics of Perfect Competition

A market structure needs to meet the following requirements in order to be perfectly competitive. The following characteristics or distinguishing characteristics define perfect competition:

1. **Large number of sellers:** Large numbers of present and future businesses or sellers fundamentally make up a perfectly competitive market system. Their quantity is sufficient, and because the average size of each company is small, each one has a negligible market share. In other words, the supply of a single seller or business represents a small portion of the whole market supply. Any change in a single supply has very little impact on the whole supply. The dominant market price cannot be influenced by a single enterprise. A company can sell as much as it can create at a given price in a market with perfect competition.
2. **Large number of buyers:** Because there are so many real and potential buyers, the desire of each one buyer only accounts for a small portion of the market's overall demand. As a result, no single customer may have an impact on the current price of the goods.
3. **Product homogeneity:** In a market with perfect competition, each company provides a homogeneous good. As a result, each seller's product is essentially uniform, making it impossible to distinguish between the products of different sellers. Since each company creates an identical product, their goods are easily interchangeable. As a result, the customer does not have a strong desire to buy from a specific supplier solely. Due to the homogeneity of the commodities, his decision to buy from a specific seller is one based on chance rather than his own preferences. The term "industry" also refers to the market under perfect competition. An industry is a grouping of all the businesses that produce the same kind of commodities.
4. **Free entry and exit of firms:** New companies can enter the market without restriction. There is no entry barrier for them in terms of law, technology, business, finances, or anything else. Existing businesses are also allowed to leave the market. Due to the flexibility of businesses, new players will constantly enter the market whenever there is room, ensuring fierce competition. Ineffective businesses would eventually have to leave the sector due to the industry's inherent fierce competitiveness.
5. **Perfect knowledge of market conditions:** All buyers and sellers must have complete awareness of the market's current conditions, particularly with regard to its price, supply levels, and supply sources, in order for there to be perfect competition. No buyer could be paid a price different from the market price when there is such complete awareness. Similarly, no seller would unnecessarily lose by selling at a lower price.
6. **Perfect mobility of factors of production:** The perfect mobility of the factors of production is a precondition of perfect competitiveness. Only perfect factor mobility can guarantee simple entry or exit for businesses. Once more, it guarantees that all enterprises pay the same factor costs.
7. **Government non-intervention:** The absence of government interference in the operation of the market economy is another implication of perfect competition. That is to say, there are no taxes, grants, restrictions on the

availability of commodities, restrictions on the supply of raw materials, licencing rules, or other forms of government meddling. For businesses to be able to enter the market freely and for demand and supply to automatically adjust, government intervention must be avoided.

8. **Absence of transport costs element:** It is crucial that the competitive position of no company is harmed by variations in transportation costs. Thus, it is assumed that either no transportation costs exist since all businesses are located close to the market or that all businesses incur the same transportation costs because all businesses are thought to be situated at similar distances from the market.

6.3.2 Pure and Perfect Competition

Pure competition and perfect competition are frequently distinguished from one another. This distinction, however, relates more to degree than to kind. There are three essential requirements that must be met for a market to be simply competitive. These include I a sizable pool of customers and sellers, (ii) a uniformity of product, and (iii) the freedom of enterprises to enter or leave the market. Four more requirements must be met for the market to be completely competitive: (a) full market information; (b) perfect factor mobility; (c) complete government non-intervention; and (d) no transit cost differential.

By the way, British economists frequently use the phrase "perfect competition" while explaining the pricing theory. However, American economists favour building a "pure competition" market model, realistically accepting that other prerequisites for perfect competition, such as perfect information and labour mobility, may not be feasible. In reality, perfect competition is merely a theoretical idea, a suggestive standard, or an ideal for the market system. Without fully achieving the ideal of perfect competition, pure competition supports it.

6.3.3 Perfect Competition in Practice

In contrast to the reality of the market, perfect competition is a "ideal concept" of the market. When all the units of each commodity are equal, the perfect competition model can be somewhat applied to the market for agricultural products like rice, cotton, wheat, etc. Additionally, not all of the requirements for ideal competitiveness may be met. Perfect competition is an uncommon occurrence outside of the agricultural industry. In fact, the competitive market is becoming less and less feasible in modern countries, especially for agricultural products.

6.3.4 Imperfect Competition

The simplest market scenario that economists theoretically presuppose is complete competition. Modern economists like Mrs. Joan Robinson and Chamberlin, however, challenged the very concept of perfect competition. They regard it as a totally unrealistic model, something imagined without any contact whatsoever with economic reality. Not every aspect of perfect competitiveness exists at once. So, in reality, there is imperfect competition rather than perfect one.

Competition is never perfect in reality. Therefore, there is imperfect competition in the absence of perfect rivalry between suppliers and purchasers.

6.3.5 Theoretical Importance of Perfect Competitive Market Model

1. It is an easy and practical type of market structure to comprehend and examine.
2. It also closely resembles the market economy during the heyday of capitalism.
3. It gives us a clear understanding of how a market economy functions. It assists us in developing a firm understanding of the fundamental concepts underpinning how the market economy operates.
4. It acts as a starting point for comprehending the nature of more intricate market structures.
5. Based on normative considerations, it is viewed as the optimal type of market.

   In reality, perfect competition is praised for its optimal resource allocation and flawless efficiency. It results in the kind of logical price determination where total supply and demand are long-term optimally balanced.

Check Your Progress

3. State the main features of perfect competition.
4. Why is perfect competition regarded as the best market model?

6.4 PRICE DETERMINATION UNDER PERFECT COMPETITION

The equilibrium price, which is established by the interaction of the forces of total supply (decided by all the sellers) and total demand (determined by all the buyers) in the market, is the only price that governs the market under perfect competition.

Thus, the intersection of total demand and total supply determines both the market or equilibrium price and the volume of output in a market with perfect competition. Let's look at fictitious data on wheat market supply and demand, as shown in Table 6.1, to clarify the intersecting process.

Table 6.1: Market Demand and Supply Schedules for Wheat

Possible Price (₹ per kg)	*Total Demand (kg per week)*	*Total Supply (kg per week)*	*Pressure on Price*
4.00	1,000	10,000	Downward
3.50	3,000	8,000	Downward
2.50	4,000	6,000	Downward
2.00	5,000	5,000	Neutral
1.50	7,000	4,000	Upward
1.00	10,000	2,000	Upward

When we compare the market's supply and demand positions at various potential values, we find that at a price of ₹ 4, the supply of wheat is 10,000 kg while the demand is just 1,000 kg. Thus, 9,000 kg of the supply of wheat is still unsold. The vendor would compete, and the force would drive the price lower as a result, putting downward pressure on the price. Demand will increase to 3,000 kg and the supply will decrease to 8,000 kg when the price drops to $3.50. The supply still outweighs the demand.

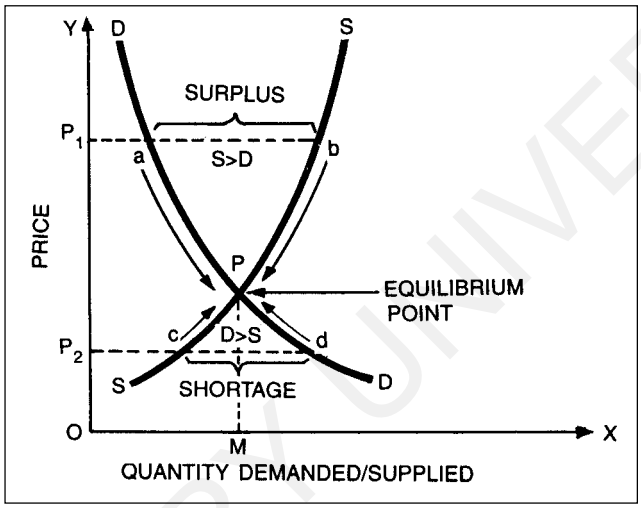


Fig. 6.1: Market Period Determination

The excess of supply thus pushes the price further lower. Inevitably, the cost will tend to decrease. This cycle repeats until the price stabilises at ₹ 2 per kg, at which point the same quantity (5,000 kg) is both sought and supplied. As an equilibrium price, this is known.

However, if we start with a very low price (Re. 1 per kg), we find that the supply (2000 kg) is insufficient to meet the demand (10,000 kg). There is a shortage, and the price per kilogramme is Re. The price is under rising pressure as a result. Thus, the price will probably increase. Demand decreases and supply increases as the price rises. This process continues until the price at which the demand and supply are equal is reached. In Figure 6.1, PM denotes the equilibrium price and OM, the quantity both demanded and supplied, respectively. The supply and demand curves converge at point P. Assume the price is not at the equilibrium point in order to comprehend the equilibrium process. At this point, the supply is P_1b and the demand is P_1a if the price is higher than the equilibrium price, as in OP_1. Consequently, there is an excess of ab. In other words, more is offered for sale than what customers are willing to purchase at the going rate. Therefore, the rival sellers will be persuaded to lower the price in order to clear the stock of unsold goods. The downward-pointing arrows indicate the beginning of a downward movement and adjustment that will eventually result in: (i) the industry will be forced to cut back on resources, which will result in a contraction of supply and (ii) an expansion of demand as new customers are drawn to the market and existing customers may be persuaded to buy more at a lower price. The demand is more likely to outweigh the supply if the price is below the equilibrium level. For instance, the demand is P_2d

and the supply is P_2c at OP_2 pricing. As a result, there is a significant deficit in supply. In other words, purchasers desire to acquire more than what is offered on the market at the going rate. This encourages the rival purchasers to increase their bids. The arrows pointing upwards so indicate the development of an upward push and adjustment.

Check Your Progress

5. Explain price determination under perfect competition.

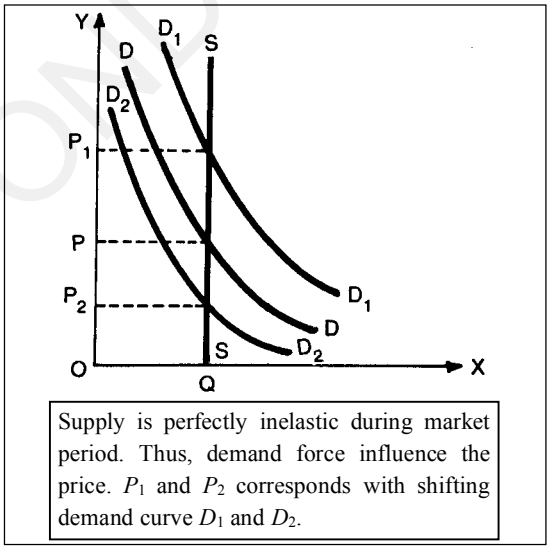
6.5 SIGNIFICANCE OF TIME ELEMENT

Three different time periods with varied lengths can be used to identify the time element, namely: (*i*) market period, (*ii*) short period, and (*iii*) long period.

6.5.1 Market Period Price

The market period is really brief. It is essentially impossible to change output or increase stock during this time. As a result, the supply of the good tends to be totally elastic. As can be seen in Fig. 6.2, the interaction of market period demand and supply determines the market price, or for simplicity, the market price. The SS supply curve in Fig. 6.2 is a vertical straight line, which represents a supply that is completely inelastic. Demand curve is DD.

The price (OP) at which supply and demand are equal is determined by the intersection of these two curves (OQ). Since supply is fixed during the market time, changes in demand conditions are the only factors that affect the equilibrium price, or the price during the market period. Evidently, as demand rises, the market price follows suit, and conversely, as demand falls, so does the price, to the same extent. Demand increases as the demand curve shifts from DD to D_1D_1, which also causes the new equilibrium price to climb from OP to OP_1. The new price is also set at OP_2 level if there is a drop in demand as shown by the curve D_1D_1. Prices on the open market are P_1 and P_2.



Supply is perfectly inelastic during market period. Thus, demand force influence the price. P_1 and P_2 corresponds with shifting demand curve D_1 and D_2.

Fig. 6.2: Market Period Price

6.5.2 Short Period Price

The term "short period" refers to the time frame in which the volume of production is unchanged yet there is some room for changing the supply of the good. The period does not allow any changes in fixed factors. Depending on variations in demand, variable factors may be raised or decreased. In contrast to the supply curve during the market period, the supply curve during this short period will be somewhat elastic. The forces of short-term supply and demand interplay to produce the short-term price. The short period equilibrium price, as represented graphically in Fig. 6.3, is established at the intersection of the short period supply and demand curves.

where, VSPSC = Very Short Period Supply Curve
MPSC = Market Period Supply Curve
SPSC = Short Period Supply Curve

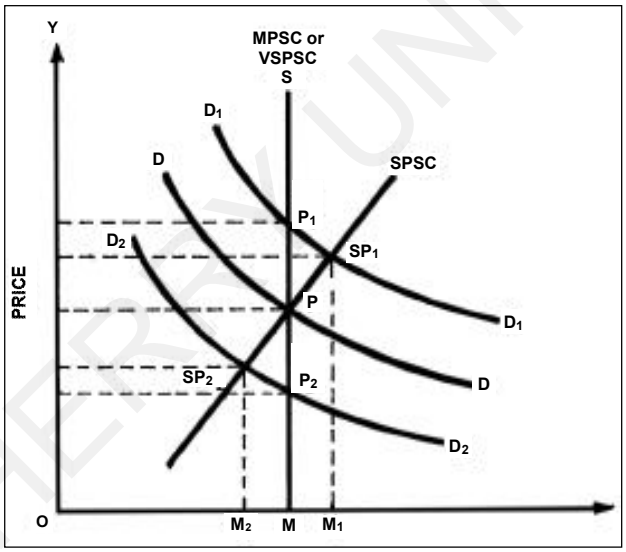


Fig. 6.3: Short Period Price

The commodity's supply has a tendency to fluctuate in the short term to some extent in response to fluctuations in demand. As seen by the curve SPSC, the supply curve will have a little degree of elastic behaviour. An increase in demand is indicated by a shift in the demand curve from DD to D_1D_1. The supply grows somewhat along with the rising demand. The price therefore increases from P to SP_1. When demand declines as indicated by the curve D_2D_2, a new price is established at SP_2 (the point at which the decreased demand represented by D_1D_1 curve and the short period supply curve SPSC intersect). SP_1 and SP_2 represent short-term prices.

6.5.3 Long Period Price

Long period is the functional time frame that is adequate for businesses to modify the size and scope of production. As a result, both the variable elements and the fixed components are changeable over time, allowing for adjustments in the commodity supply in response to demand changes. Hence, the supply curve in the long run becomes elastic, and in the very long run, it can become perfectly elastic.

The long period is determined by the interaction of long-term supply and demand. As seen in Fig. 6.4, the price is established at the intersection of the long-run supply and demand curves.

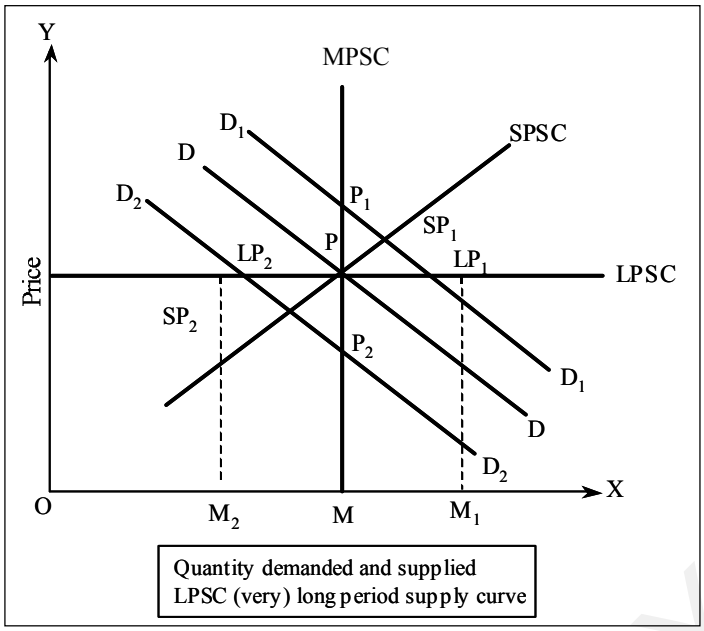


Fig. 6.4: Long Period Price

In Fig. 6.4, LPSC represents the long and very long period supply curve. It is fully elastic, meaning that variations in supply follow variations in demand in a way that keeps the price constant at the equilibrium level. As a result, P, LP_1 and LP_2 signify one price level at the same level, whereas LP_1 and LP_2 stand for long-term pricing. Over time, the supply force overtakes the demand force as the major element in establishing the equilibrium price.

Check Your Progress

6. What is meant by the concept of time element in the theory of value?
7. Drawing a diagram, explain the determination of long-run price.

6.6 MARKET PRICE AND NORMAL PRICE

1. In its strictest sense, "market price" refers to the price during the market period. It is the equilibrium price that results from the interaction of daily supply and demand. While normal pricing refers to the price over the long term. It is the equilibrium price established by long-term forces of supply and demand.
2. In the case of market price, the supply has a tendency to be constant and absolutely inelastic. Thus, the demand factor has a greater influence in effecting a change in the equilibrium market price. The supply tends to be quite elastic, therefore it has a significantly stronger influence on determining an equilibrium price, just like in the case of normal pricing.
3. The market price is a dynamic occurrence. It reflects shaky supply and demand equilibrium conditions. On the other hand, the normal price is a

consistent phenomenon. It symbolises sustained demand and supply balance situations. In short, market price is a temporary equilibrium price, while the long-run or normal price is a permanent equilibrium price.

4. Market price is affected by changes in the short-run forces of demand determinants. Long-term dynamic forces of demand and supply factors have an impact on normal pricing such as population growth, technological advancement, territorial expansion, innovation, changes in habits and preferences of consumers, pace of economic development etc.
5. The market price is related to the average price even if it is always changing. It frequently fluctuates towards the average price and occasionally reaches parity with it.

The relationship between market and normal price may be described diagrammatically as in Fig. 6.5.

It may be seen that, from time to time, the market price tends to oscillate; it fluctuates about the normal price, sometimes being higher than the normal price, sometimes being the same as the normal price, and occasionally being lower than the typical price.

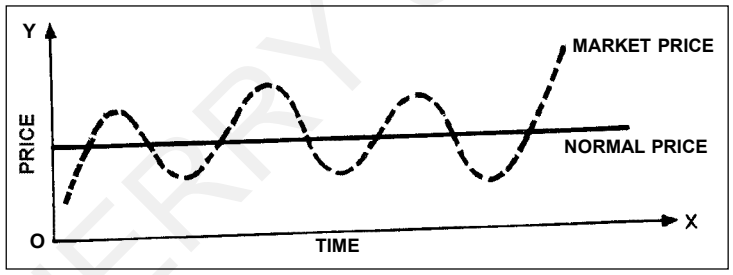


Fig. 6.5: Market Price and Normal Price Relationship

Check Your Progress

8. Narrate the distinction and relationship of the market price and normal price.

6.7 CHANGES IN EQUILIBRIUM PRICE

A price that tends to have equal amounts of supply and demand is known as an equilibrium price. Changes in the factors that influence demand, such as population, fashion, consumer income, tastes, routines, and preferences, costs of alternatives, the introduction of new items, taxation levels, etc., may result in changes in demand. Similar to demand, supply fluctuations can be brought about by variations in factor prices and cost circumstances, production methods, innovation, government fiscal policy, weather conditions in the case of agricultural and agro-based products, etc. We might look at a few scenarios where supply and demand fluctuate together with the equilibrium price as follows:

1. Assuming supply to be fixed, demand increases or decreases.
2. Assuming demand to be fixed, supply increases or decreases.
3. Supply and demand both increase or decrease in the same proportion.

Case 1

Supply being constant, when demand increases, the equilibrium price in a competitive market tends to rise. Similarly, a decrease in demand implies a fall in price. The graphical illustration in Fig. 6.6 makes the point clear.

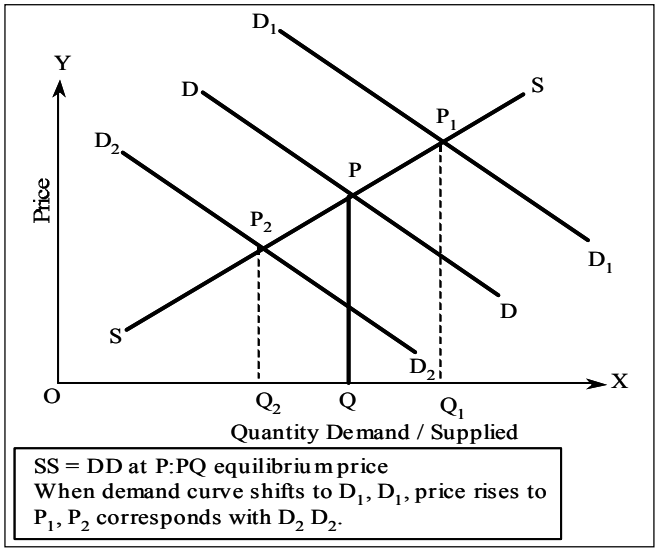


Fig. 6.6: Change in Demand and Price

In Fig. 6.6, the original equilibrium price is PQ, corresponding to the original demand curve DD and the supply curve SS. When demand curve shifts to D_1D_1, representing an increase in demand, the equilibrium price rises to P_1Q_1, at which more quantity of (OQ_1) is demanded and supplied. Similar to this, as the supply decreases and the demand curve flips to D_2D_2, the new equilibrium price, which is lower than the initial price, is set at P_2Q_2.

Case 2

Demand being constant, when supply increases, the equilibrium price tends to fall. When supply decreases, the price tends to rise. This is illustrated in Fig. 6.7.

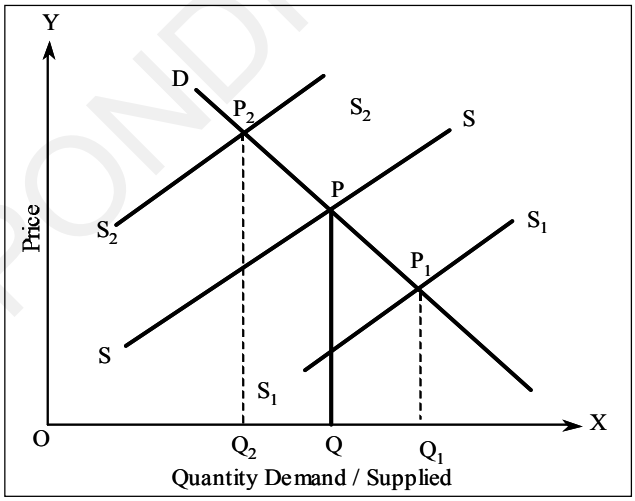


Fig. 6.7: Changes in Supply and the Price

In Fig. 6.7, original price is PQ. The price drops to P_1Q_1 when the supply curve changes to S_1S_1, which represents an increase in supply. Likewise, when the

supply curve changes to S_2S_2, signifying a reduction in supply, the price increases to P_2Q_2.

Case 3

When supply and demand increase or decrease in the same proportion, the equilibrium price remains unchanged. This is illustrated in Fig. 6.8.

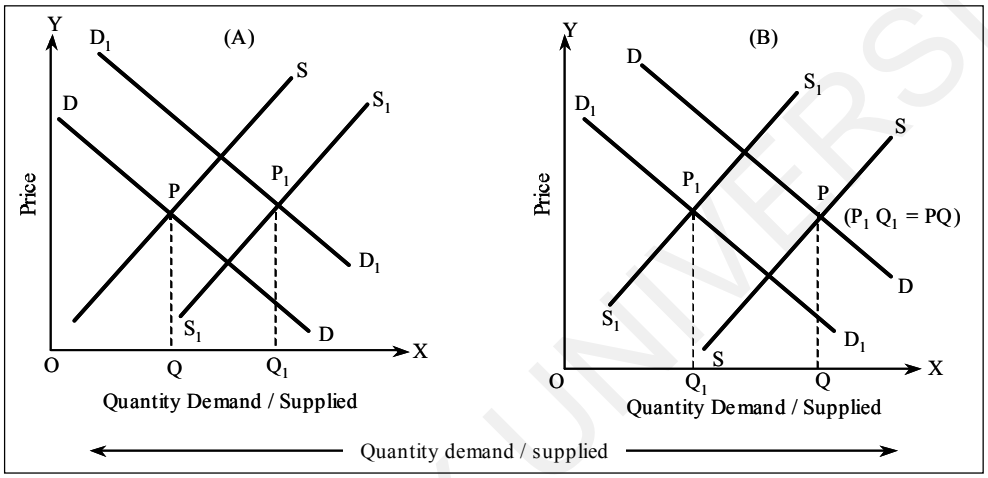


Fig. 6.8: Proportionate Change in the Demand and Supply

In panel (A) of Fig. 6.8, the original price is PQ, but as demand and supply curves shift to D_1D_1 and S_1S_1 representing an increase in equal proportion, the new equilibrium price is P_1Q_1 which is of the same height as the original price PQ. It means, at the same price, more is bought and sold. Similarly, when demand and supply decrease in equal proportion, less is bought and sold at the original price level as shown in panel (B) in Fig. 6.8.

Check Your Progress

9. What happens to price of a product when demand increases, supply being unchanged? Explain.
10. What is the effect of increase or decrease in supply on price when demand remaining the same? Explain.

6.8 EQUILIBRIUM OF THE COMPETITIVE FIRM UNDER PROFIT MOTIVE

In determining the equilibrium of a firm, it is assumed that the firm aims at maximisation of its profits. This assumption is fundamental to the analysis of the behaviour of a firm whose entrepreneur is assumed to act rationally. It is, therefore, necessary to define clearly the meaning of profit maximisation. Ordinarily, profit is defined as the difference between an organisation's total revenue from sales proceeds of a particular output and its cost of production. Symbolically, thus:

$$\pi = R - C$$

where, π = profit,
R = total revenue, and
C = total cost

When R > C and R – C is a positive value, it is called profit. If, however, R < C and R – C is negative, it is called loss. This is the interpretation of the term 'profit' in the accounting sense. But, when an economist calculates total cost, he includes all explicit as well as implicit costs. Economists have, therefore, two distinct notions of profit: (*i*) normal profit and (*ii*) supernormal profit.

6.8.1 Normal Profit

It refers to the earnings that are just right to persuade the company to remain in the sector. Normal profits are the minimal acceptable level of profit an entrepreneur must achieve over the long term in order to persuade him to keep using his resources in the manner in which he has been. The opportunity cost of entrepreneurship is normal profit. It is comparable to the entrepreneur's transfer earnings. That indicates that the business owner will shut down his company and leave the sector if he is unable to generate a consistent rate of profit over the long term. He will then redirect his efforts elsewhere. Normal profit is regarded as the lowest return that can be expected to be obtained over time by the entrepreneur in exchange for his organisational services and for taking on the insurable business risks.

Normal profit is always considered to be one of the costs of the factor. The price paid for entrepreneurial service is the normal profit and must be taken into account when determining the total cost because it is a factor of production. Of course, the implied cost in terms of money is usual profit. As a result, in an economic sense, the total cost (C) includes the firm's typical profit when it is measured. As a result, it will typically be assumed that there is no profit when R = C. Though we might assert that there is no pure commercial profit in the economics sense, there is regular profit, which is already included in the whole cost. It must be kept in mind that the entrepreneur seeks a regular profit of a fixed amount that is unrelated to productivity. Normal profit is therefore a fixed indirect cost element. Evidently, total normal profit, such as TFC, spreads across the range of production when output increases. This affects how the average cost curve (AC), as depicted in Fig. 6.9, is shaped.

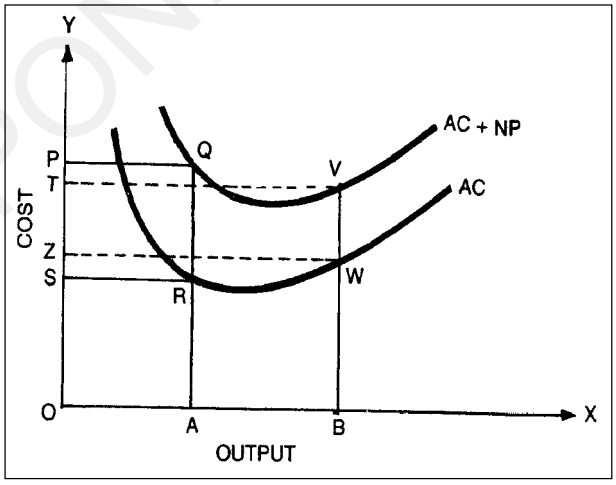


Fig. 6.9: Normal Profit and AC Curve

Following Professors Stonier and Hauge, in Fig. 6.9, two AC curves have been created, one without the normal profit cost element (AC) and one with it (AC + NP). It can be seen that the vertical distance between the AC and AC + NP curves tends to steadily decrease as we move from left to right. This suggests that normal profit per unit of output decreases as output grows. At all output levels, the overall usual profit stays the same. Geometrically speaking, the average normal profit is thus QR when output is OA. The average normal profit decreases to VW as output increases to OB. In the first situation and the latter, the total typical profit is PQRS and TVWZ, respectively. On the other hand, PQRS = TVWZ. In economic theory, the normal profit is always included as a factor cost element of a fixed character whenever the average cost curve is formed. ATC curve, then, stands for AC + NP curve. The idea of normal profit is important theoretically since it helps to establish the equilibrium of an industry. There won't be any new entrants into the cutthroat market or sector if present businesses are just making average profits.

6.8.2 Supernormal Profit

Profits that are higher than the average profit are known as supernormal profits. Supernormal profit is obtained when total revenue exceeds total costs (i.e., TR > TC), since normal profit is accounted for in the cost of production. Additionally known as "excess profit," it is pure corporate profit. Supernormal profit is dependent on the business's unpredictable and erratic demand conditions. The payoff for enduring the uncertainties and unpredictabilities of business is above-average earnings. In a market that's competitive, an entrepreneur may occasionally achieve supernormal profit levels by working really efficiently. New entrants will be drawn to the industry when the existing businesses make profits that are above average. Consequently, the industry's stability is under danger.

By the way, subnormal profit is what the firm makes when TR > TC and just a portion of normal profit is realised by the company. Profit below the normal profit is referred to as subnormal profit. Total revenue in this case fully offsets all explicit costs as well as certain hidden costs.

6.8.3 Profit Maximisation

From the above analysis, it follows that normal profits and the excess of total revenue over total cost, often known as residual income, make up an entrepreneur's income. Normal profits are the minimum income which the entrepreneur must receive if he is to continue to remain in his line of production. They are a part of the costs, and in pursuing the objective of profit maximisation, the entrepreneur does not aim at maximising normal profits. What he aims at maximising is the residual income, *i.e.*, the term "supernormal profit" refers to the gap between total revenue and total expense.

6.8.4 Essential Conditions

The behaviour principle of profit maximisation is to equate marginal cost with marginal revenue. A rational entrepreneur, as such as, will fix his output so as to compare marginal cost with marginal revenue in any, market situation, purely

competitive, less competitive or non-competitive (monopoly). In terms of graphs, the intersection of the MC curve and the MR curve is where the equilibrium point is located. As a result, the MR curve and MC curves intersect at the equilibrium point, as shown in Fig. 6.10.

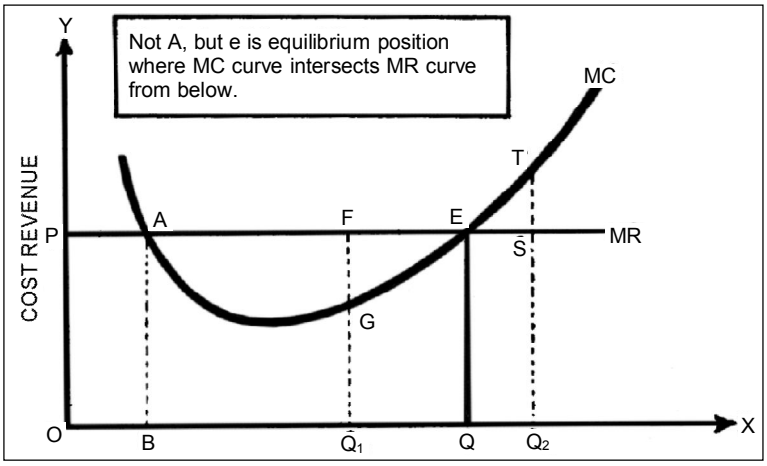


Fig. 6.10: Behavioural Rule of Profit Maximisation

The marginal revenue curve (MR) and the marginal cost curve (MC) are shown in Fig. 6.10. At position E, MC crosses MR from below. When the output Q is created at point E, MC = MR. OQ is the output that achieves equilibrium and maximises profitability. In a diagram, the region beneath the MR curve represents the output's total revenue, and the area beneath the MC curve represents its whole cost. Thus, the area AGEF, which is the profit area, serves as a gauge for measuring the difference between TR and TC. The area is obtained when the firm produces OQ level of the output at which MR = MC and the profits appear to be maximum. Supposing the firm is producing less, say, upto OQ_1, then by increasing output further, the firm is in a position to add to its total profit, measured by the area FGE, because MR > MC. The addition to total profit is possible unit MR = MC. The firm will make profit by increasing its output so long as its MR > MC. Once MR = MC, further production means MC > MR. As shown in the diagram, when the firm produces OQ units of output MC > MR, *i.e.*, loss amounting to the area EST. Apparently, to produce up to OQ_2 level of output is not a paying proposition for the firm and it will find it advantageous to reduce the level of output back to OQ. Thus, the point at which MR = MC is the maximum profit position; it is the equilibrium point. Again, for the firm under perfect competition MR = Price. Thus, either P = MC or MR = MC can be regarded as the equilibrium condition in the case of a competitive firm.

Check Your Progress

11. Explain the economic rule of profit maximisation.

6.9 VARIANTS OF COMPETITION AND BUSINESS PRACTICES

In actual practice, though there is no pure competition, there exists severe competition among the producers in various forms:

1. **Potential Competition:** In a competitive market, free entry of firms cause potential competition. Owing to potential competition, the firms are retrained from overcharging their customers in selling their products and underpaying for buying their raw materials. Science, invention and technological advancement sustain potential competition. Potential competition is, however, weakened by factors like the exclusive ownership of scarce resources, huge investment needed to start a production unit, high transport cost, protectionist devices like tariffs and import quotas, patent rights, etc.

2. **Effective Competition:** Competition is said to be effective, though it may not be pure or perfect, when there are many sellers competing to sell a product, so that the buyers are offered many alternatives for buying the goods which compels the producers to constantly and genuinely improve the product, services and lower the prices to attract or retain the patronage of the buyers.

   The following factors make competition effective:

   (i) Existence of many sellers – each one being fit to survive and grow.
   (ii) Availability of ready substitution of one product for another.
   (iii) Perquisites of potential competition.
   (iv) Market informations
   (v) Independent actions of each firm in business policy making.

   The concept of effective competition seems to be more realistic and practicable as against the concept of perfect competition. Effective competition cannot exist if producers are few in number, huge capital investment is required, there is absence of price warfare due to business syndicate of the firms.

3. **Cut-throat Competition:** When there are idle or excess capacity and fixed costs to the firms, they may resort to cut prices of the output, leading to cut-throat competition in the market which benefits none as each firm fails to recover its running costs. Before 1939, British shipping companies had resorted to cut-throat competition.

4. **Unfair Competition:** When businessmen resort to unfair tactics to seize the market and place the rival at some disadvantage, it is called unfair competition. It is unethical, for example, to take customers away from a rival if a seller resorts to practices like defaming the rival's product, damaging his goods, bribing his salesmen, stealing his trade secrets, putting him through phoney legal proceedings, and inciting his employees to strike.

Check Your Progress

12. Trace the reality of competition in practice.

6.10 CONCLUDING REMARKS

Main Features of the Market Economy

1. **Free enterprise:** A market economy is a free enterprise economy.
2. **No government intervention:** The government adopts *laissez-faire* policy and does not interfere in the business field. Thus, the private sector has complete freedom of exploitation and use of the productive resources.
3. **Economic freedom:** There is complete freedom of choice of consumption and production. A consumer chooses what he likes. A producer can produce what he finds the most profitable.
4. **Profit motive:** Profit is the motivating force for free enterprise.
5. **Price system:** The market mechanism is based on the working of the price system which provides guidance for the production and consumption. The forces of supply and demand control the price system.
6. **Competition:** A market economy is a competitive economy.
7. **Product markets and factor markets:** A market economy comprises product markets and factor markets. Demand and supply in the product markets interact to produce commodity prices. Factor prices are determined by the interaction of demand and supply in the factor markets.

6.11 MERITS OF A MARKET ECONOMY

The following are the main advantages of a market-oriented economy:

1. **Automatic working:** The working of market mechanism through the price system in solving the economic problem of resource allocation is automatic. The consumer's choice is reflected through demand and prices in the market. The production pattern is determined by the relative price and profitability. Similar to how the relative factor prices control distribution. The relative pricing of commodities affect the consumption patterns.
2. **Optimum allocation of resources:** The market mechanism brings about automatically the optimum allocation of productive resources in the long run in a free enterprise economy.
3. **Unrestricted economic freedom:** Unrestricted freedom of consumption, occupation and production is the main merit of a market-based economy. Market mechanism facilitates consumers' sovereignty (the consumer is the king). The customer is free to select or purchase whatever he wants from the market. Production is, thus, directed by consumers' preferences.

4. **Economic dynamism and progress:** Self-interest and profit incentives in the market economy induce the people to work hard. Competition and free enterprise lead to economic dynamism and fast development and progress of the economy.
5. **Absence of government interference:** Exponent of market economy claims an advantage that it is free from government intervention. It, thus, provides full freedom and scope the private sector and individuals.

6.12 DRAWBACKS OF A MARKET ECONOMY

The main drawbacks of a market-based economy are as follows:

1. **Lack of economic stability:** The market economy is inherently subject to trade cycles. Hence, there is no economic stability. Cyclical ups and downs are the common feature of a capitalist economy.
2. **Growth of monopolies:** Though a free enterprise system is supposed to be competitive, in practice, there has been a growth of monopolies with all its evil aspects, excess capacity, high profits, high price, consumer exploitation and the concentration of economic power in a small number of people.
3. **Inequalities in distribution:** The market mechanism leads to inequalities in the distribution of incomes. The profiteer class enjoys a much larger share than the wage-earners. The gulf of inequalities tending very wide in the market-oriented economy.
4. **Lack of security:** The survival of the fittest is the guiding concept of the market economy. Thus, the weaker sections have no security of income and employment in such a system.
5. **Malallocation of resources and lopsided development:** The market mechanism has failed to bring about automatic optimum allocation of resources. Actually, there has been a malallocation of resources, where production is solely profit-oriented.
6. **Myth of consumers' sovereignty:** Consumers' sovereignty has remained a myth in a market-oriented economy. In modern capitalist markets, consumers' preferences are distorted by the influence of heavy advertising and sales propaganda. Production is not carried out as per consumers' demand. Rather consumers' demands are manipulated by altering their preferences through the effects of advertisements.

6.13 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The market is the setting where buyers and sellers interact when purchasing and selling products.
2. Perfect competition in the market is regarded by the economists as the most textual ideal of economic analysis in market ideology.

3. Distinguishing features of perfectly competitive market are:
   (i) Large number of buyers
   (ii) Large number of sellers
   (iii) Homogeneity of goods
   (iv) Free entry
   (v) Perfect knowledge of the market condition
   (vi) Perfect mobility of labour and other factors of production
   (vii) No government interference in the working of the market
   (viii) No transport cost differences in the entrant sellers
4. Perfect competition conceptually is termed as the best market model, being simple and convenient of market structure, the course of economic exposition of the market behaviour in a free enterprise economy.
5. In a competition market, at the equilibrium point when demand and supply for a certain good interact, the price of that good is established.
6. In the Marshallian theory of value, the term "time element" refers to the operational time period - the period-wise forces of supply and supply interaction in determination of the price of a product.
7. Flatter straight demand curve of demand and vertical demand and supply at interacting point determine long-run price. (Ref. Fig. 6.2). Long-term, supply can be perfectly raised to satisfy the altered demand.
8. Market price refers to the very short period price.
   - Normal price is notional long-run phenomenon.
   - Market price moves up and down around the normal prices (Ref. Fig. 6.6).
9. Price tends to rise. (Ref. Fig. 6.6).
10. When supply increases, while demand remaining constant, price falls. If supply decreases, on the other hand, price tends to rise (Ref. Fig. 6.3).
11. Rule of profit maximisation – Equals marginal revenue with marginal cost of the profit (Ref. Fig. 6.10).
12. Perfect competition is never pure in reality. There tends to be potential competition, effective competition, cut-throat competition.

6.14 SUMMARY

- In a market economy, economic organisations are run by the individuals and corporate sector.
- It is a free enterprise economy.
- It is based on the government's *laissez-faire* approach.
- Profit is its main motive force.
- Market economy is a competitive economy.

- It comprises product markets and factor markets.
- It implies automatic allocation of the productive resources.
- It is subject to cyclical variations.
- It breeds monopolies due to the concentration of economic power.
- A market is a set of circumstances where buyers and sellers interact in order to exchange goods by purchasing and selling them.
- Buyers look towards utility of the products while deciding to purchase.
- Sellers, however, are interacted in earning profits from the sales.
- Perfect competition is regarded as the theoretical ideal by the economists.
- In reality, there hardly exists a perfectly competitive market.
- Market price is a very short period price.
- Normal price is long-term notional price concept in economic terminology.
- Changes in demand and supply condition cause changes in price.
- Profit maximisation Rule: $MR = MC$.
- There is only one dominant market price in a situation of complete competition.
- The competitive price is determined by supply and demand dynamics.
- Time element is the kingpin of the Marshallian theory of value – price determination.
- The market period is really brief. During the market time, supply is entirely fixed since output stock cannot increase during this period being too short.

6.15 KEY TERMS

- **Market:** Contact arrangement in the process of buying and selling action of the consumers and producers.
- **Perfect Competition:** Most ideal arrangement of rivalry between product buyers and suppliers.
- **Market Period:** Very short period, so supply of a product remaining perfectly elastic against the demand being elastic.
- **Market Price:** Market period price.
- **Normal Price:** Long period price – as a notional concept.
- **Profit:** Total Revenue *minus* Total Cost.

6.16 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Give a brief idea of the market economy.
2. What are the main features of a market economy?
3. Distinguish between Market Price and Normal Price.
4. Explain briefly market period price by drawing the curve.
5. Drawing a diagram, explain the determination of market period price.
6. Explain long period price.

Long Answer Questions

1. Explain the nature and features of a market economy.
2. Trace the merits and drawbacks of the market economy.
3. Explain, using diagram, various cases of change in demand and supply and the consequent changes in the equilibrium price.
4. Explain the basics of market demand, supply and equilibrium price.
5. Expose market price and normal price.
6. Discuss the changes in equilibrium price.

6.17 REFERENCES

1. Mankiw, N.G. (2002), *Principles of Economics*, Thompson, New York.
2. Due, F.J. and Clowes, W.R. (1963), *Intermediate Economic Analysis*, Richard D. Irwin, Illinois.

Chapter 7 Meaning, Definition and Determinants of Demand

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Glance at definition of demand to understand its economic meaning
- Distinguish between individual and market demand
- State the factors determining the demand

Structure:

7.1 MEANING AND DEFINITION OF DEMAND

In economics, "demand" refers to the actual demand for a good or service. Mere desire for a commodity is not demand. Desire must be backed by capacity (*i.e.*, the necessary purchasing power) and willingness to pay for it, *i.e.*, one should want to purchase a good. He should possess the necessary funds and be prepared to pay the fee. The desire for an automobile by a pauper does not amount to demand. The following three conditions are implied by demand:

(1) a need for a good or service,

(2) willingness to pay the fee, and

(3) ability to pay for it, or the consumer must have enough money to purchase it.

Thus, Demand = Want + Ability to pay + Willingness to pay.

Demand is also a relative concept. It is usually taken into account in respect to cost and duration. So, the quantity of an item purchased at a specific price per period of time, such as a day, a month, or a year, is what is meant by the term

"demand." For instance, we may declare that Mr. X needs 10 kg of sugar per month at a price of ₹ 6 per kg or that a specific market needs 40 quintals of sugar per day at a price of ₹ 6 per kg. As a result, we can define demand as follows: *The quantity of a commodity that will be purchased over time at a specific price is known as its demand.*

A commodity's demand can be categorised as either *ex-ante*, or what is planned to be purchased, or *ex-post*, or what has actually been acquired. While the latter refers to the actual quantity purchased, the former indicates potential demand.

Check Your Progress

1. Define Demand.
2. Explain briefly individual and market demand.

7.2 INDIVIDUAL AND MARKET DEMAND

A product's consumer demand can be divided into two categories: (i) individual demand and (ii) market demand. Individual demand is the desire for a good or service from the perspective of an individual. A consumer's individual demand for a given good is the amount of that good he would purchase at a given price during a given time. Individual demand is examined from either the perspective of the individual or of their family or household. Individual demand is the demand of a single consuming entity. On the other hand, market demand for a product refers to the combined total of all buyer demand. The entire market demand for the goods is the amount that the general public would purchase at a specific point in time. Usually, under market mechanism, resources would be automatically channelised in producing those goods which have a greater intensity of market demand, and consequently, higher prices and more profitability. Thus, in a market economy, manufacturers can alter their supplies using market demand as a guide.

7.3 DETERMINANTS OF DEMAND: FACTORS INFLUENCING INDIVIDUAL DEMANDS

A person's desire for a certain commodity is typically influenced by variables like:

(i) Price of the product: The first factor in determining a commodity's demand is always its price. More frequently than not, a larger quantity is required at a lower price.

(ii) Income: Income plays a significant role in determining demand. Obviously, having more money allows one to purchase more items. The demands of wealthy consumers are typically higher than those of impoverished consumers.

(iii) Tastes and habits: The demand for numerous products is influenced by a person's choices, habits, and tastes. The demand for many goods, like ice cream, chocolates, bhel puris, etc., relies on a person's preferences. Demand for products like cigarettes, betel, and tea is a matter of habit.

Diverse tastes and habits lead to different preferences for various products.

(iv) Relative prices of other goods: substitutes and complementary products: However, the relative costs of other related items, such as alternatives or complements to a commodity, also influence how much the customer wants to spend on a given good. Substitutes are considered when another similar good can fulfil a desire. Peas and beans, groundnut and palm oil, tea and coffee, jowar and bajra, among other foods, can all be used in place of one another. A commodity's demand is influenced by the relative cost of its alternatives. There will be more demand for this commodity at a given price if the substitutes are comparatively expensive than if they are relatively inexpensive.

(v) Consumer's expectations: Demand for a particular commodity may also be impacted by a consumer's expectations for future price adjustments. He will typically purchase less at the current going rate when he anticipates its prices to decline in the future. In a similar vein, if someone anticipates a future price increase, he will likely purchase more now.

(vi) Advertisement effect: In the current era, advertising and sales propaganda can, albeit only partially, change a consumer's inclinations. The commercials have increased demand for various products, including processed foods, washing detergent, toothpaste, and toilet soap.

7.4 FACTORS INFLUENCING MARKET DEMAND

1. **Price of product:** Market demand for the product is typically strong while the price is low, and *vice versa*.
2. **Distribution of income and wealth in the community:** The market demand for many goods of common consumption tends to be higher when there is an equal distribution of income and wealth than when there is an unequal distribution.
3. **Common habits and scale of preferences:** The level of preferences across consumers as a whole has a significant impact on the market demand for a product. For instance, if a sizable portion of the population decides they prefer non-vegetarian cuisine to vegetarian food, the demand for the latter will likely rise and the former will likely decline.
4. **General standards of living and spending habits of the people:** Demand for various comforts and luxuries tends to be stronger when individuals choose a high quality of living and are willing to spend more money.
5. **Number of buyers in the market and the growth of population:** Naturally, the number of consumers in the market has an impact on the amount of the market demand for a product. A huge supply will result from a large number of purchasers, and *vice versa.*

6. **Age structure and sex ratio of the population:** In a relative sense, market demand for many products is influenced by population age structure. The market demand for items required by the elderly will be substantially higher if a country's demographic pyramid is broad-based and has a bigger number of young people. Similar to this, the sex ratio affects the demand for a variety of items. If the number of females were to surpass that of males (or *vice versa*, as in Mumbai), there would be a greater demand for commodities from the female population than from the male population (or the reverse).
7. **Future expectations:** The current market demand would be higher if buyers as a whole anticipated that a product's prices would grow in the future, etc., as the majority of them would want to hoard the commodity. If a decline in the prices in the future is anticipated, the opposite occurs.
8. **Level of taxation and tax structure:** A generally low demand for goods would result from an increasing tax rate, and *vice versa*. However, if there is a close equivalent, a heavily taxed commodity will have a lesser demand than one that is not.
9. **Inventions and innovations:** In a modern economy that is dynamic, the introduction of new goods or substitutes as a consequence of inventions and innovations tends to negatively impact demand for the present items, which as a result of innovations, unquestionably become obsolete. For instance, adding machines are no longer necessary due to the development of electronic calculators.
10. **Fashions:** Modesty trends have an impact on the market demand for numerous things. For instance, the demand for goods like jeans, salwar-kameej, etc. is determined by current trends.
11. **Climatic or weather conditions:** Climate and weather conditions influence the demand for particular products. For instance, there is a higher demand for iced beverages, fans, coolers, etc. during the summer. The need for raincoats and umbrellas is also cyclical.
12. **Customs:** Social conventions, holidays, and other events influence the demand for specific items. Say that the demand for sweets and crackers increases during the Diwali holiday, and that the demand for cakes increases during the Christmas season.
13. **Advertisement and sales propaganda:** The efforts of the sellers to influence the market demand for numerous things nowadays through marketing and sales propaganda. Thus, demand is influenced.

Check Your Progress

3. State the determinants of individual demand.
4. What are the factors influencing market demand?

7.5 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The quantity of a commodity that is purchased per unit of time at a specific price is referred to as its demand.
2. An person's demand for a product at its current price is referred to as individual demand.
3. The total amount of desire for a certain product expressed by all of the customers is what makes up market demand.
4. In modern times, demand for fashionable clothes, TV sets, furniture, etc. is largely moulded in favour of the products advertised through media. Likewise, demand for umbrellas, raincoats, etc. are seasonal.

7.6 SUMMARY

- Demand means effective demand, as an economic term.
- Individual demand is the commodity desired to be purchased by a person.
- Market demand is in full aggregate of individual demands summed up in the market.
- Several factors are influencing individual's demand and market demand.
- Price is the basic determinant of the demand for a product.
- Advertising and sales propaganda are resorted to by the sellers to capture a larger share in the market demand.

7.7 KEY TERMS

- **Demand:** The quantity of a good bought by a customer at a particular price in one unit of time.
- **Individual Demand:** Demand from one consuming entity.
- **Market Demand:** Combined demand from all customers who purchased a goods.

7.8 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Define demand.
2. Differentiate between individual and market demand.

Long Answer Questions

1. What are the factors determining individual demand?
2. Discuss the determinants of the market demand for a product.

7.9 REFERENCES

1. Mankiw, N.G. (2002), *Principles of Economics*, Thompson, New York.
2. Hirschey, M. and Pappas, J.L. (1998), *Fundamentals of Managerial Economics*, Dryden Press, Chicago.

Chapter 8 Law of Demand

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Explore the illustration of demand schedule
- State and explore the law of demand
- Distinguish between variation and change in demand
- Indicate the types of demand

Structure:

8.1 DEMAND FUNCTION AND DEMAND SCHEDULE

8.1.1 Demand Function

It is possible to mathematically define the functional relationship between the demand for a commodity and its numerous determinants in terms of a demand function. Thus:

$$Dx = f(Px, Py, M, T, A, U)$$

where, Dx = Demanded quantity for commodity x
f = Functional relation
Px = The value of good x.
Py = The cost of alternatives and complementary products
M = The consumer's annual revenue in money
T = The consumer's preferences
A = The effects of the ads
U = Unidentified factors or influences.

The demand function mentioned above is challenging. Once more, unquantifiable elements include tastes and unidentified influences. Therefore, economists use a very basic definition of the demand function and assume that all other variables, aside from price, are constant. So, the most frequent and oversimplified demand function is:

$$Dx = f(Px)$$

This implies that a commodity's demand is a function of its price. The conventional demand theory expressly addresses this demand function.

Check Your Progress

1. What is meant by demand function?
2. What is meant by demand schedule?

8.1.2 Demand Schedule

The demand schedule is a table-based explanation of the link between price and quantity. It details how much of a commodity is sought after by a person or a group in the market at various prices for a given amount of time. Two different demand schedules exist:

1. Schedule for individual demand.
2. Schedule for market demand.

8.1.3 Individual Demand Schedule

An individual demand schedule is a table listing the amounts of a commodity that an individual will buy at different prices over a specific time period (such as per day, per week, per month, or per year).

A hypothetical consumer's demand schedule is shown in Table 8.1. For mangoes, Mr. X.

Table 8.1: Individual Demand Schedule

Price of Mangoes (₹ per kg)	Amount Demanded per Week (Quantities in kg)
30	2
25	4
20	6
15	10
10	16

8.1.4 Characteristics of Demand Schedule

1. The demand schedule just represents the individual's current behaviour in buying the commodity at various prices, not indicating any change in his demand.
2. Only the variation in demand at various prices is displayed.
3. It aims to demonstrate the idea that a commodity is sought more when its price is lower than when it is higher. The majority of demand schedules, in fact, demonstrate an inverse relationship between price and amount sought.

8.1.5 Market Demand Schedule

It is a tabular statement that details the total amount of a commodity that all purchasers in the market have demanded at various prices over a specific period of time. Thus, a market demand schedule depicts the overall market demand at different prices. The entire demand for a commodity at various alternative prices can theoretically be represented by compiling and combining the demand schedules of all individual consumers of the commodity. Table 8.2 illustrates how market demand can be derived from individual demand schedules under the assumption that there are only three purchasers in the market: A, B, and C.

Table 8.2: Market Demand Schedule

Price (in ₹)	Units of Commodity *X* Demanded per Day by Individuals						Total or Market Demand
	A	+	B	+	C	=	
4	1		1		3		5
3	2		3		5		10
2	3		5		7		15
1	5		9		10		24

It appears that the horizontal additions of quantities at different prices indicated by the individual demand schedules are how the market demand schedule is built. It follows that the market demand schedule also shows an inverse relationship between price and quantity sought, much like the individual demand schedule.

8.1.6 Demand Equation and Demand Schedule

The following formula can be used to express a linear demand function::

$D = a - bP$

where D stands for the quantity demanded and an is a constant parameter that represents starting demand regardless of price. A negative function is shown by the minus sign (–) in the constant parameter b, which indicates the functional relationship between price (P) and demand (D). This suggests that a commodity's demand is a diminishing function of its price, b. In actuality, b indicates that the demand curve is downwardly sloping since it gauges the slope of the demand curve. We might use the following equation to represent the demand schedule: $D = 20 - 2P$.

Table 8.3: Demand Schedule

Price per Unit (*P*) (in ₹)	Units Demanded (*D*)
1	18
2	16
3	14
4	12
5	10

A linear (straight line) demand curve is created when the demand schedule from Table 8.3 is represented graphically, as in Fig. 8.1. A constant proportional relationship between price and demand quantities leads to a linear demand curve.

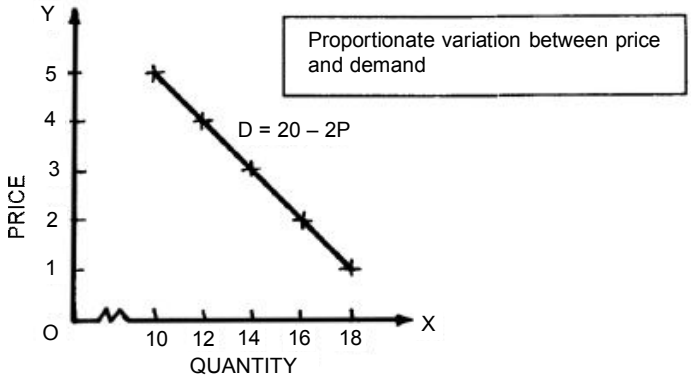


Fig. 8.1: Demand Curve (Linear)

Based on the information in Table 8.1, the demand curve is depicted in Fig. 8.1.

In Fig. 8.1, the price is measured on the vertical axis while the amount needed is measured on the horizontal axis (X-axis) (Y-axis). Related points are drawn on the graph in accordance with the price quantity relations listed in the demand

schedule (Table 8.3). These points are connected, and the demand curve—an elegant curve denoted by the letters DD—is then drawn. The slope of the demand curve is negative. From left to right, it slopes downhill, signifying the inverse relationship between supply and demand. However, Fig. 8.1 shows a specific demand curve. The market demand curve can also be created by charting the market demand schedule on the graph. A demand curve is a graphical presentation of a demand schedule.

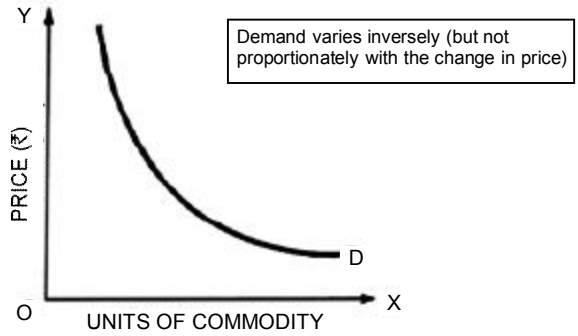


Fig. 8.2: Demand Curve (Non-linear)

Check Your Progress

3. Draw a linear demand curve.
4. Draw a non-linear demand curve.

8.1.7 Derivation of Market Demand Curve

The horizontal summing of each individual demand curve for a specific commodity yields the market demand curve. Fig. 8.3 illustrates this. Fig. 8.3 is drawn by plotting the data contained in Table 8.2.

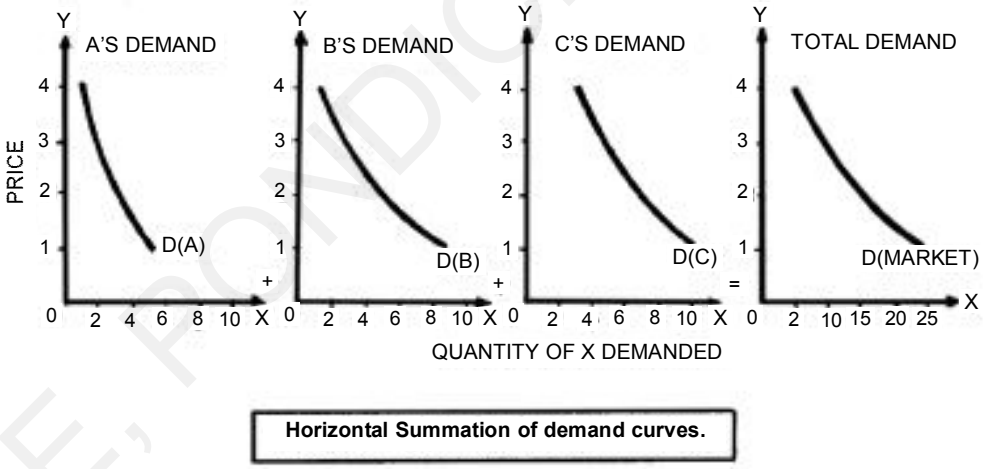


Fig. 8.3: Derivation of Market Demand Curve

8.2 THE LAW OF DEMAND

8.2.1 Statement of the Law

The rule can be summarised as follows: "Other things being equal, the amount requested of a good or service decreases with increasing price, and increases with decreasing price. In other words, as the price drops, the demand for a commodity increases (i.e., the demand rises), and as the price increases, the demand decreases (i.e., the demand decreases). The law of demand emphasises that, provided all other factors remain constant, demand varies inversely with price. However, the traditional law of demand applies to the considerably more straightforward demand function: Demand is represented by D, price is represented by P, and f denotes a functional connection. However, it makes the assumption that all other demand determinants are fixed and that the only variable and determining component is price. A larger quantity is typically wanted at a lower price and a smaller quantity at a higher price, demonstrating an inverse or negative relationship between price and quantity of demand.

8.2.2 Explanation of the Law Demand

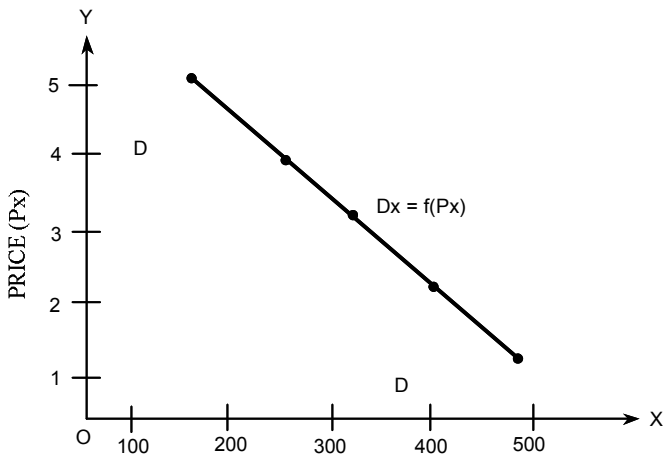
However, it makes the assumption that all other demand determinants are fixed and that the only variable and determining component is price. A larger quantity is typically wanted at a lower price and a smaller quantity at a higher price, demonstrating an inverse or negative relationship between price and quantity of demand.

Table 8.4: A Market Demand Schedule (Imaginary Data)

Price of Commodity X (in ₹)	Quantity Demanded (Units per Week)
5	100
4	200
3	300
2	400
1	500

A potential demand schedule for commodity X is shown in Table 8.4. This table shows that demand tends to increase as prices decline at each step. The price and quantity demanded are inversely correlated. Typically, economists will create a demand curve to illustrate the rule of demand. When the information from Table 4 is graphically represented, the demand curve will look like Fig. 8.4.

A demand curve with a downward slope, shown DD in Figure 8.4, shows that there is an inverse relationship between price and demand. Demand curve is a very convenient means of further economic analysis. One may simply find the market demand for a product at a certain price from the given market demand curve. Additionally, the mathematical demand function is geometrically represented by the demand curve: Dx = f (Px)



Demand for Commodity X (In Units per Week)

Fig. 8.4: Demand Curve

Check Your Progress

5. State the Law of demand.
6. What are the assumptions underlying the Law of demand?

8.2.3 Assumptions Underlying the Law of Demand

The above-stated law of demand is conditional. As a result, "other things being equal" is always used. Assuming other demand factors are constant, it simply pertains to the variation in the price variable. Thus, the following ceteris paribus hypotheses serve as the foundation for the rule of demand:

1. **No change in consumer's income:** The consumer's income should remain constant while the law is in effect. The law of demand is rendered invalid if a buyer's income level changes because he may then purchase more even at a higher price.
2. **No change in consumer's preferences:** The tastes, routines, and preferences of the consumer should not change.
3. **No change in fashion:** Even at a significant price discount, a buyer may not purchase more of the commodity in question if it becomes unpopular.
4. **No change in the prices of related goods:** Other goods' prices, such as those for alternatives and complements, remain the same. The consumer's choices would change if the pricing of associated goods changed, which may render the law of demand incorrect.
5. **No expectations of future price changes or shortages:** The given change for the commodity must be normal and not based on speculation, according to the legislation. In other words, purchasers do not anticipate any limitations in the commodity's supply or future price changes.
6. **No change in size, age composition and sex ratio of the population:** The quantity of customers and their preferences must remain consistent for the legislation to operate as intended with regard to overall market

demand. As a result, it is essential that the population's size, age distribution, and gender ratio all stay the same.

7. **No change in the range of goods available to consumers:** This suggests that there hasn't been any innovation or introduction of new product variants that could alter consumer preferences.
8. **No change in the distribution of income and wealth of the community:** Additionally, there is no redistribution of revenue, therefore the consumer's income levels stay the same.
9. **No change in government policy:** The amount of taxes levied and the government's fiscal strategy remain unchanged. The consumer's choices may be distorted as a result of changes in commodity taxes (sales tax or excise duties), for example, or changes in income tax, for example.
10. **No change in weather conditions:** The demand for things like woollen clothing, umbrellas, and other items is still influenced by climatic and meteorological conditions.

8.3 DOWNWARD-SLOPING DEMAND CURVE

Demand curve slopes downward under all normal conditions. In exceptional circumstances, it can be otherwise. It shows that more and more goods and services are being sought after at cheaper prices when it slopes downward from left to right. A downward sloping demand curve is formed when people demand more of a good at lower costs.

(i) Income Effect: When the price of a commodity falls, the buyers of that commodity who are already in its market may derive some more consumer surplus than earlier when the price was higher. When the price falls, they may purchase more units of that commodity until the marginal utility derived from the last unit of their purchase is equal to its reduced price. This customer behaviour complies with the law of declining marginal utility (DMU).

(ii) Substitution Effect: The demand for a commodity may also rise from new customers by means of substitution when the price of a commodity falls. For example, when the price of a cup of tea falls, the demand for tea may increase not only from those who are hitherto using tea but also from those using coffee. Generally, consumers would like to substitute the chapter commodity in the market when the price of other substitute goods remains constant. This is called a substitution effect.

(iii) Multiple Uses: Some goods have a wide range of applications. When the market price for these products declines, the commodity may put to use where it was not used earlier. For example, when there is a fall in the price of a unit of electricity, it may be used not only for lighting but also for heating water, cooking, washing clothes in a washing machine, etc. Consequently, the demand may go up from different directions.

8.4 EXCEPTIONS TO THE LAW OF DEMAND OR EXCEPTIONAL DEMAND CURVE

The law of demand states that demand expands when prices drop and reduces when prices rise, and this tendency is essentially ubiquitous. However, it can occasionally be seen—though, of course, very infrequently—that demand decreases when prices down and increases when prices increase. This is an apparent violation of the law of demand, or a paradoxical scenario. Those instances where this pattern is seen are known as exceptions to the general law of demand. Such scenarios will have a generally unique demand curve. As seen in Fig. 8.5, the demand curve will have an upward slope. It is referred to as a remarkable demand curve. The demand curve (DD) in Fig. 8.5 slopes upward from left to right. Thus, it would seem that while the price is OP_1, the demand is OQ_1, and when the price is raised to OP_2, the demand increases to OQ_2. A direct functional relationship between price and demand is thus expressed by the upward sloping demand curve.

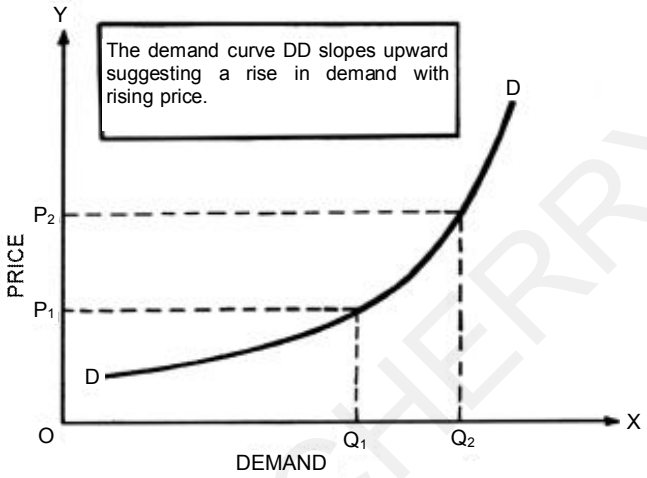


Fig. 8.5: Exceptional Demand Curve

Such rare cases are uncommon.

1. **Giffen goods:** Because of the negative income impact and people's growing demand for a superior commodity with an increase in their real income, when the price of some inferior commodities, known as Giffen goods, drops, fairly frequently less of them will be purchased than before. In contrast to great commodities, a few suitable examples of inferior goods could include everyday consumables like inexpensive bread, cheap potatoes, pucca rice, vegetable ghee, etc. pure ghee, basmati rice, and cake.
2. **Articles of snob appeal:** Some products have a "snob appeal" and can be in high demand simply because they are pricey or prestige goods. These are typically showy items that only wealthy people buy as a "status symbol." As a result, demand for goods like diamonds increases along with their price.

3. **Speculation:** People might not act now in accordance with the rule of demand when they bet on future changes in the price of a good. Say, for example, that when people are convinced that the price of a certain good will continue to grow, they won't reduce their demand in response to the price increase; instead, they might buy more with the intention of hoarding.
4. **Consumer's psychological bias or illusion:** When a consumer's perception of a good or service changes along with the price, he or she may reduce their desire for that good or service as the price drops. Some savvy customers decide not to purchase when there is a stock clearance sale at a discount because they believe the products could not be of good quality.

Check Your Progress

7. What are the exceptions to the Law of Demand?
8. Draw an exceptional demand curve.

8.5 CHANGES IN QUANTITY DEMANDED AND CHANGES IN DEMAND

Changes in quantity demanded have to do with the law of demand. It describes changes in the quantities that consumers buy as a result of price fluctuations. In contrast to the terms "growth" and "reduction," "changes in quantity demanded" essentially implies variation in demand referring to "extension" or "contraction" of demand.

8.5.1 Extension and Contraction of Demand

Demand "extension" or "contraction" is implied by a change in demand. Demand increases when more of a commodity is purchased when the price drops. Similar to this, demand contracts when a lower amount is desired at a higher price. In other words, demand grows when prices are low and shrinks when prices are high. Thus, while explaining the rule of demand, the words "extension" and "contraction" are used. To be clear, "growth" and "reduction" in demand should not be confused with the phrases "extension" and "contraction" of demand. The first one is used to indicate variations in demand, while the second one is used to indicate shifts in demand. Demand fluctuation is a sign of the law of demand. It illustrates the functional link between price and demand. Expansion or contraction of demand is the result of a price change. The same demand curve is referred to by both extension and contraction. Increased or decreased demand refers to a shift in demand brought on by factors other than price. In a graphical explanation, the movement along the demand curve represents the "extension" or "contraction" of demand. An extension of demand is implied by a downward movement from one point on the same demand curve to another, such as the shift from a to b in Fig. 8.6. In contrast, a movement upward from one point to another on the same demand curve implies a contraction of demand, as in the case of the movement from a to c

in Fig. 8.6. This suggests that when the price decreases from OP to OP_1, demand stretches from OQ to OQ_1.

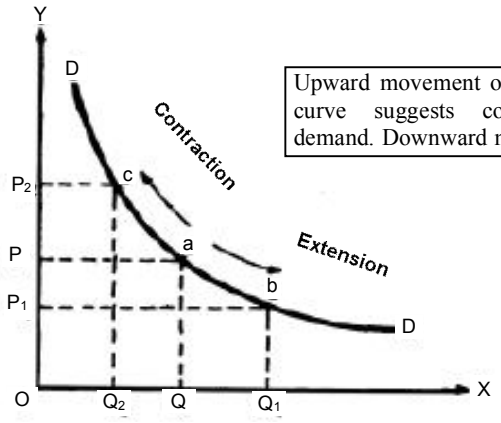


Fig. 8.6: Extension and Contraction of Demand

It implies that demand decreases from OQ to OQ_2 when price increases from OP to OP_2.

8.5.2 Increase and Decrease in Demand

Changes in demand are expressed using these two phrases. Demand shifts occur when conditions or other variables, outside price, that influence demand change. Thus, a shift in demand implies either an increase or a drop in demand. Demand increases when more of a commodity is purchased at a given price than it was previously. For example, suppose a consumer, yesterday purchased 2 kg of apples at a price of ₹ 30 per kg. If today at the same price of ₹ 30 per kg, he buys 3 kg of apples, then it means there is an increase (by 1 kg) in his demand for apples. Similar to this, demand decreases when less of a commodity is purchased than before although the price remains the same. In our previous example, if the consumer now buys only 1 kg at the same price of ₹ 30 per kg, it means decrease (by 1 kg) in his demand. Or to put it another way, a "increase" in demand means either that more will be demanded at a given price or that the same will be demanded at a higher price. Therefore, an increase in demand indicates that more is now desired at all prices than there was previously. Similar to supply, a "drop" in demand denotes either a lower or higher price at which the same amount will be requested. The transitions from one demand curve to another graphically represent the expressions "increase" and "reduction" in demand. In other words, a shift in the demand curve indicates a change in demand. The demand curve moves to the right in response to rising demand. Thus, a rise in demand is indicated by the demand curve's movement from DD to D_1D_1 in Figure 8.7(A). In this instance, the change from point a to point b shows that while the price at OP remains the same, greater quantity (OQ_1) is now required rather than OQ. Consequently, OQ_1 is a rise in demand. Similar to Fig. 8.7(B), a decline in demand is represented by the demand curve shifting to the left. Thus, the change of the demand curve from DD to D_2D_2 in the image illustrates a decline in demand. In this instance, the progression from

point a to point c shows that the price at OP is unchanged, but less OQ_2 is needed than before. Here, OQ_2 denotes a decline in demand.

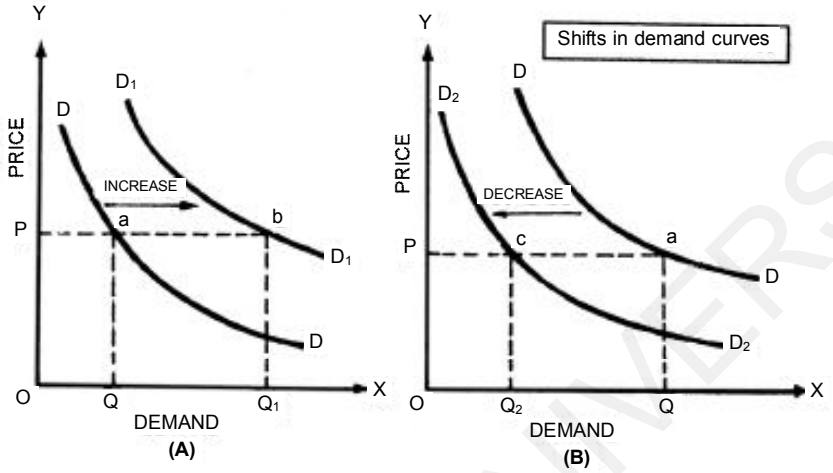


Fig. 8.7: Increase and Decrease in Demand

Check Your Progress

9. What is meant by the shifts – upward and downward – in demand curve?
10. Why demand tends to increase or decrease?

8.6 REASONS FOR CHANGE (INCREASE OR DECREASE) IN DEMAND

1. **Changes in income:** The consumer's demand for the majority of commodities is considerably influenced by changes in his income. With an increase in consumer money, there is a greater desire for higher products in general as well as for luxuries and comforts. In a similar vein, demand often declines as income falls.
2. **Changes in taste, habit and preference:** The consumer's demand will alter if his preferences, habits, or tastes change. For instance, a person's desire for cigarettes declines when they cut back on their smoking.
3. **Change in fashions and customs:** Many of our demands are determined by fashions and customs in our society. When these change, demand also changes.
4. **Change in the distribution of wealth:** Government can reduce income and wealth inequality through fiscal policies and achieve a just distribution of wealth, which would alter the demand structure in a vibrant welfare state. Welfare programmes, such as free medical care, free education, pension plans, etc., increase the spending power and level of living of the community's most vulnerable members.
5. **Change in substitutes:** The pattern of demand for the in issue commodity is undoubtedly impacted by changes in the substitutes' availability, prices, and development of new and higher quality

replacements. Let's say that the popularity of ballpoint pens has decreased demand for fountain pens.

6. **Change in complementary goods:** There will be consequences on the demand for the commodity in issue when the supply or demand conditions of a complementary good change (which is jointly demanded). For instance, if the demand for shoes changes, the demand for shoelaces will also alter automatically.
7. **Change in population:** When the population as a whole or its age or sex distribution changes, the market demand for a commodity also changes significantly. For instance, more toys and chocolates will be desired in a nation where the birthrate is high. However, their demand will decline if family planning initiatives as a whole significantly lower the birth rate. Similar to this, if the country's gender ratio changes and more women than men live there, demand for skirts will rise while that for shirts will fall.
8. **Advertisement and publicity persuasion:** Consumer tastes are impacted and the demand for items is altered by businesses' creative and persistent advertising campaigns. In general, sales tactics and marketing have a significant role in determining demand for patented medicines and toiletries.
9. **Change in the value of money:** The relative pricing of various goods may alter when inflationary or deflationary tendencies in the overall price level, which affects the value of money, are emerging. This can lead to significant changes in the demand pattern.
10. **Change in the level of taxation:** People's disposable income rises when the government modifies its tax code, especially when it comes to direct taxes, which causes changes in the overall demand. High tariff duties are imposed by the government on imports to decrease the demand.
11. **Expectation of future changes in prices:** When a consumer anticipates future price increases, he may purchase more at the current price, increasing demand and *vice versa*.

8.7 TYPES OF DEMAND (OR DEMAND DISTINCTIONS)

8.7.1 Demand for Consumer's Goods and Producer's Goods

Two sub-groups of commodities can be distinguished: (i) consumer's goods and (ii) producer's goods.

1. Consumer's goods, also known as consumption goods, include things like food, clothing, housing, and other items that consumers desire in order to directly satisfy their demands. Producer's goods, also known as capital goods, are products needed by producers during the production process. Examples include tools and equipment, machinery, raw materials, etc.

2. Direct or independent demand exists for consumer goods. The products of the producer are in demand. It is based on the amount of output that is needed.
3. The marginal utility of a consumer good determines its demand.

   The marginal productivity or marginal revenue product of a producer determines the demand for its items.
4. Since marginal utility curves are usually negatively sloping, the demand curves for consumer's goods are negatively sloping.

8.7.2 Demand for Perishable Goods and Durable Goods

Products can be further categorised based on their level of durability into: (i) perishable goods and (ii) durable goods.

1. Products that are perishable, like milk, cannot be kept for an extended period of time because they lack durability. Long-lasting items are durable. They can be stored for a very long time, like furniture.
2. Utilising non-durable or perishable products provides a one-time service.

   Contrarily, durable products can be utilised for a number of years.
3. There are consumables that are both durable and perishable. For instance, perishable consumption items like veggies and fish are different from durable consumption goods like TVs, cars, and homes. There are also capital items that are durable and non-durable. For instance, factory equipment, machinery, etc. are durable capital goods, whereas raw materials, electricity, etc. are not.
4. Perishable goods have more elastic demand. Demand for durable goods is less elastic in the short term. In the long run, their demand is more elastic.
5. Demand for perishable goods is always immediate. Demand for durable goods is postponable.
6. Demand for non-durable items is typically influenced by the purchasers' current level of fashion, convenience, and income.

8.7.3 Autonomous Demand and Derived Demand

Autonomous demand is the term used to describe spontaneous consumer behaviour that results from the desire to directly gratify certain demands. Consumer products are in autonomous demand. It is an ultimatum. It is a clear request. Autonomous demand for consumer goods is based on how useful the products are. The term "derived demand" refers to demand for a product that is dependent on the demand for some other commodities. According to Joel Dean, "when demand for a product is tied to the purchase of some parent product, its demand is called derived".

8.7.4 Industry Demand and Company Demand

Industry demand is the total demand for the good produced by a specific industry, for example, the total demand for cars in India is the whole demand for the goods produced by the automobile industry. A business unit is a firm. Industry is a group of businesses that compete fiercely.

The demand curve for the industry as a whole slopes downward, demonstrating an inverse relationship between price and quantity. In case of monopoly, the firm itself is industry. So, its demand is identical with the industry demand. Further, industry demand may be classified customer group-wise, *e.g.*, cement demanded by builders, individual households, housing boards and government departments. Fig. 8.8 illustrates different demand conditions of industry and company.

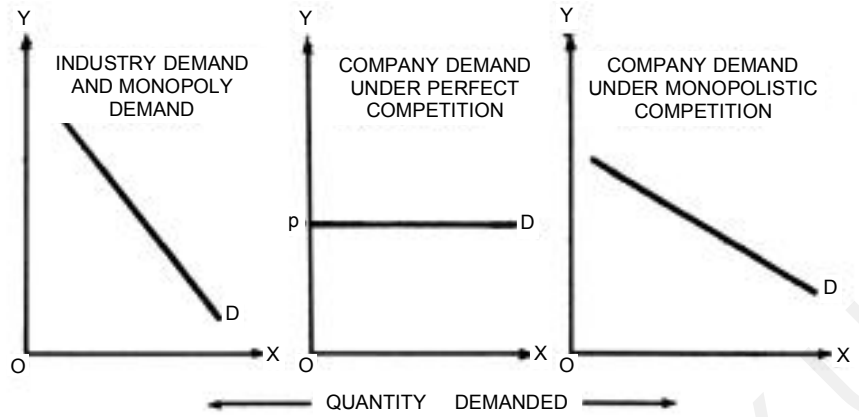


Fig. 8.8: Industry and Company Demand

8.7.5 Short-run Demand and Long-run Demand

Though there is no clear demarcation between the short-run and long-run demand, the distinction is useful for solving many decision-making problems. Especially, demand elasticity differs with time. The short-run elasticity of industry demand is usually less than the long-run elasticity owing to many reasons, such as:

- Cultural lags in informations and experiences.
- Capital investments required of buyers to shift consumption patterns.
- Time-adjustment involved, *e.g.*, it takes time to change consumption habits, time needed to arrange for finance, etc.

The long-run and short-run demand curves for an industry are shown in Fig. 8.9.

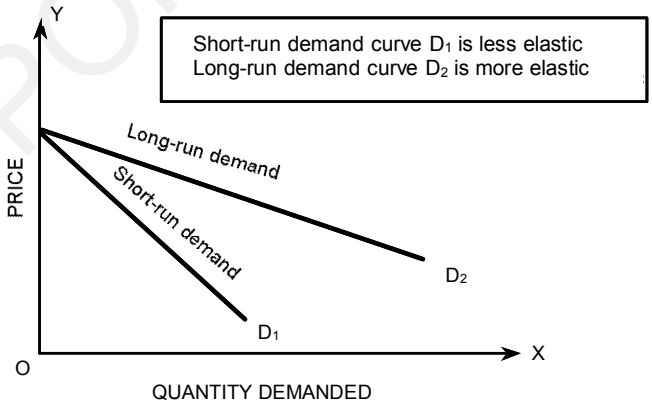


Fig. 8.9: Short-run and Long-run Demand Curve

8.7.6 Joint Demand and Composite Demand

1. **Joint or Complementary Demand:** Joint or complementary demand is the term used when two items are required simultaneously to meet a single need, such as vehicles and gas, pens and ink, bread and butter, coffee, sugar and milk, pipe and pipe tobacco. In these circumstances, a shift in the demand for one good causes a shift in the demand for the other in the same direction and often in the same proportion. These are termed as complementary goods.
2. **Composite Demand:** When a commodity is required for a variety of purposes, it is said to be in composite demand. Steel is required for the production of automobiles, buildings, the building of railroads, etc. Coal is demanded by households, factories, railways, chemical industries, etc. Wool is required in clothing, carpet manufacturing and in several other industries. Electricity also has a composite demand as it is used for light, cooking, TV, radio and many other electrical appliances by a household. Likewise, sugar is another illustration of composite demand. Sugar is needed for a variety number of purposes.

8.6.7 Price Demand, Income Demand and Cross Demand

1. **Price Demand:** Price demand describes the different amounts of a commodity that consumers purchase at varying costs. The demand function in price demand is based on a single variable price. As a result, D = f (P), where D denotes demand, f denotes a functional connection, and P denotes product price.
2. **Income Demand:** Income demand is the term used to describe the varied quantities of a good or service that a consumer will demand at various levels of his fluctuating financial situation. The demand function in income demand is based on the income variable (M). So, D = f. (M). The income demand function is usually a direct function. It indicates that demand extends with the rise in income and *vice versa*.
3. **Cross Demand:** Cross demand describes the varying amounts of a commodity—say, let's X—that consumers buy in response to changes in the price of a closely related commodity—say, let's Y—which could be either a substitute or a complimentary good. Cross demand function can therefore be expressed as follows: Dx = f (Py), where Py stands for the price of commodity Y and Dx stands for the demand for commodity X.

Check Your Progress

11. What is meant by complementary and composite demand?
12. Explain Income demand and cross demand.

8.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Demand function relates to the demand for a product influenced by its various determinants.

2. Demand schedule is a tabular statement of price-quantity relationship for a given product.
3. Linear demand curve is drawn as a straight line, on a graph, meaning price on *Y*-axis and quantity on *X*-axis (Fig. 8.1). Constant slope.
4. Non-linear demand curve is drawn with a declining slope, moving downwards towards *X*-axis.
5. With everything else being equal, demand and price are inversely related. It is represented by the downward sloping demand curve.
6. The premise of the law of demand is "ceteris paribus," meaning all its other determinants like income, taste, fashion, etc. remaining unchanged, product's demand changes in direct proportion to its price fluctuation.
7. Giffen goods, snob appeal articles, speculation, the law of demand is subject to deviations caused by consumer bias and illusion.
8. An upward-sloping curve is the exceptional demand curve (See Fig. 8.5).
9. Demand has increased, as shown by the upward shift in the demand curve. Demand will decline when download shift occurs.
10. Demand for a product is changed when its determinants are changing such as increase in taste, fashion, season, social customs, substitutes, complementary goods, population, advertisement, inflation, taxes and the likelihood that the product's price may vary in the future.
11. Complementary demand means demand for at least two goods are jointly required to be used in satisfying a particular want, *e.g*., pen and ink for writing on a paper, an paper and ball pen for writings, etc.
12. Income demand is a direct function of income in (say, demand for luxury product (Golden necklace) rises with the increase in income). Cross down means demand for product *X* depends on price of *Y*.

8.9 SUMMARY

- Demand is the inverse function of price.
- Linear demand function: D = a – bP.
- Demand curve usually slopes downward.
- Giffen goods have an upward-sloping demand curve.
- Change in demand implies increase or decrease in demand.

8.10 KEY TERMS

- **Demand Schedule:** A table outlining the link between price and quantity.
- **Joint Demand:** Two goods taken together is satisfying a single want.
- **Composite Demand:** Demand for a product serving several uses.

8.11 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is meant by individual and market demand?
2. What is derived demand?
3. Why does demand curve slope downward from left to right?
4. State the demand function.
5. Mention the types of demand.
6. Enlist the factors causing changes in demand.

Long Answer Questions

1. Explain the law of demand. Are there any exceptions to this law?
2. Differentiate between extension and contraction of demand. Why the demand curves slope downwards? What are the exceptions to the law of demand?
3. What are the reasons for changes in demand?

8.12 REFERENCES

1. Mankiw, N.G. (2002), *Principles of Economics*, Thompson, New York.
2. Due, F.J. and Clowes, W.R. (1963), *Intermediate Economic Analysis*, Richard D. Irwin, Illinois.
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Chapter 9 Elasticity of Demand: Concepts, Types and Measurement

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Understand the meaning of demand elasticity
- Know the types of price elasticity
- Review income elasticity of demand
- Mention practical application.

Structure:

9.1 ELASTICITY OF DEMAND: MEANING

Price frequently affects demand. However, the degree of variance is not always consistent. The variation might range from being minimal in some circumstances to being exceedingly vast in others. This means that while demand is

often quite responsive to price changes, it may not always be. Thus, the term "elasticity of demand" refers to the degree of change in demand. When used without qualifier, the phrase "elasticity of demand" is frequently referred to as "price elasticity of demand." This is only a broad application of the phrase. However, in a strict logical sense, the concept of elasticity of demand should only be used to quantify how responsively consumers' desire for a good is to changes in its demand function. Thus, there are as many different types of demand elasticity as there are determinants. However, economists typically take into account three significant sorts of demand elasticities given its key determinants. Demand elasticity is broken down into three categories: (1) Price elasticity, (2) Income elasticity, and (3) Cross-price elasticity, or simply cross elasticity.

9.2 PRICE ELASTICITY: DEFINITION

Definition: The price elasticity of demand is the degree to which demand for a commodity responds to a given change in price when other demand variables stay constant.

Thus, the ratio of the relative change in price may be used to establish the price elasticity of demand. Therefore, the coefficient of price elasticity (e) can be calculated as:

$$e = \frac{\text{The percentage change in quantity demand}}{\text{The percentage change in price}}$$

The price elasticity coefficient can also be calculated as follows since the relative change in variables can be expressed as either a proportional or percentage change:

$$e = \frac{\text{The proportional change in quality demanded}}{\text{The proportional change in price}}$$

The price elasticity of formula can be represented symbolically as follows:

$$e = \frac{\Delta Q/Q}{\Delta P/P} \quad \text{Alternatively, } e = \frac{\Delta Q}{Q} \div \frac{P}{\Delta P}$$

Or, by rearranging $e = \frac{\Delta Q}{\Delta P} \div \frac{P}{Q}$

where, Q = the original demand (say Q_1)
P = the original price (say P_1)
ΔQ = the change in demand

It is determined by comparing the new demand (let's say Q_2) to the previous demand (let's say Q_1).

Thus, $\Delta Q = Q_2 - Q_1$

ΔP = the shift in price. The difference between the old price and the new price, P_2, is used to calculate it (say P_1). Thus, $\Delta P = P_2 - P_1$.

In reality, the aforementioned formula only applies to point price elasticity of demand, meaning that the coefficient only denotes extremely slight or marginal

changes. Let's say a demand schedule provides the following data, to demonstrate how to use the formula:

Price of Apples (₹)	Quantity Demanded (kgs)
20 (P_1)	100 (Q_1)
21 (P_2)	96 (Q_2)

Thus,

$\Delta P_2 - P_1 = 21 - 20 = 1$, and $P = P_1 = 20$

$\Delta Q_2 - Q_1 = 96 - 100 = 4$, and $Q = Q_1 = 100$

(Minus signs are ignored.)

$$\therefore e = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P} = \frac{4}{100} \times \frac{20}{1} = \frac{4}{5} = 0.8$$

This indicates that the demand elasticity is below one. Any such provided data can be used to calculate the numerical coefficient of price elasticity using the formula above.

9.3 TYPES OF PRICE ELASTICITY

Considering the numerical coefficient of price elasticity in terms of unity of 1, Marshall has proposed a three-fold classification of the different types of price elasticity of demand. Since the numerical coefficient (e) values run from zero to infinity, we can state that *e* is equal to, greater than, or less than 1 depending on the unit. Marshall's classification is as follows:

1. Unit elasticity of demand ($e = 1$).
2. Elastic demand ($e > 1$), *i.e.*, elasticity is greater than unity.
3. Inelastic demand ($e < 1$), *i.e.*, elasticity is less than unity.

Unit elasticity is treated as normal or standard elasticity by Marshall and the same notion is commonly held by all economists. Demand that responds strongly or proportionally more to price change is referred to as elastic demand. It does not, however, indicate that consumers will react positively to a price increase. It simply indicates that a minor change in price results in a comparably large change in demand. Similar to this, inelastic demand does not imply entire insensitivity of demand. It simply indicates that the relative change in demand is smaller than the relative change in price. It denotes that demand only reacts to a lesser level. Five different types of price elasticity have been identified by contemporary economists, who have further developed the Marshallian classification:

(1) Perfectly elastic demand

(2) Perfectly inelastic demand

(3) Unitary elastic demand

(4) Relatively elastic demand.

(5) Relatively inelastic demand.

1. **Perfectly Elastic Demand:** Perfectly elastic demand occurs when there is an indefinite supply at the offered price. A minor or infinitesimally small increase in the price of a good causes the buyer to stop purchasing it when demand is perfectly elastic. Demand is perfectly elastic when the numerical coefficient is infinite ($e = \alpha$). In a broad sense, the shape of demand curve is significant in ascertaining the elasticity of demand. If demand is completely elastic, it will have a demand curve that is a horizontal straight line. A modest increase in price would result in zero demand, according to the demand curve in Fig. 9.1(A), but the ruling price of OP implies that demand is limitless. According to Fig. 9.1(A), at price OP, a person would purchase an infinite amount of the given good, and at a slightly higher price, he would purchase nothing. Demand that is perfectly elastic is an extreme situation in theory. It hardly ever happens in real life.

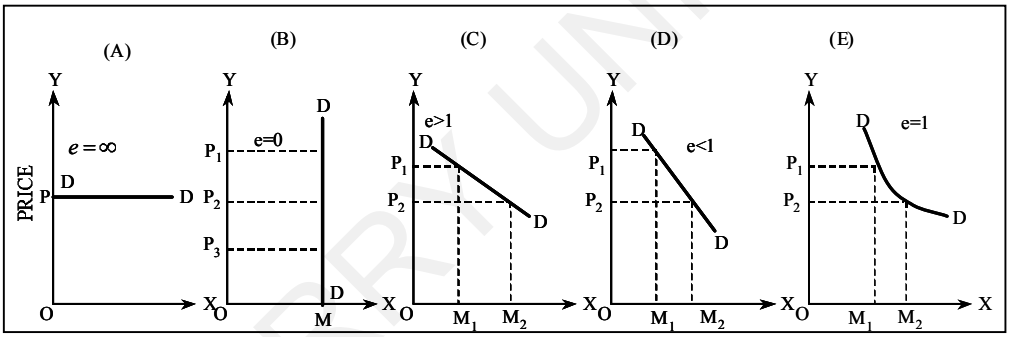

Fig. 9.1: Types of Price Elasticity of Demand

2. **Perfectly Inelastic Demand:** It is referred to as a perfectly inelastic demand when a commodity's demand exhibits no response at all to a change in price, that is, the demand remains the same regardless of the price change. Demand that is completely inelastic has no elasticity, or $e = 0$. As seen in Fig. 9.1(B), the demand curve in this situation would be a vertical, straight line. According to Fig. 9.1(B), the quantity demanded stays the same, OM alone, whether the price changes from OP_2 to OP_1 or OP_3. Again, perfect inelasticity is more of a theoretical idea than a very real event. But for the majority of customers, the demand for a basic good like salt appears to be completely inelastic. The economic property of the vertical (perfectly inelastic) demand curve is that the firm can change any price in product, yet sell the same amount.

3. **Relatively Elastic Demand:** Demand is said to be relatively elastic when the percentage or change in amount required exceeds the change in price. Relatively elastic demand has a numerical value between one and infinity. This makes the demand that Marshall described as having an elasticity greater than unity also known as "relatively elastic" demand or "more elastic" demand. A gradually sloping, or rather flatter, demand curve will be indicative of a generally elastic demand, as seen in Fig. 9.1. (C). In Fig. 9.1(C) when the price falls from OP_1 to OP_2, the demand rises to OM_2

which, in relation to the change, is rather large $\frac{\Delta Q}{Q} < \frac{\Delta P}{P}$. Hence, elasticity is greater than one.

4. **Relatively Inelastic Demand:** Demand is said to be relatively inelastic when the proportion of change in amount demanded is less than that of price. Relatively inelastic demand has a numerical value between 0 and 1. As a result, the idea of "relatively inelastic" or "less elastic" demand is equivalent to what Marshall proposed as elasticity being less than unity. A steeper demand curve, or one that slopes quickly, will indicate a relatively inelastic demand, as seen in Fig. 9.1. (D). When the price in Fig. 9.1(D) decreases by P_1P_2, the demand only increases by M_1M_2, which is comparatively very lot less in relation to the change $\frac{\Delta Q}{Q} < \frac{\Delta P}{P}$. Hence, elasticity is less than one.
5. **Unitary Elastic Demand:** Demand is referred to as unitary elastic when the proportion of change in demand is exactly the same as the change in price. Unitary elastic demand has a numerical value of exactly 1. It is just the same as what Marshall called elasticity being equal to unity. The demand curve would be a rectangular hyperbolar curve in the case of unitary elastic demand, as shown in Fig. 9.1.(E). In Fig. 9.1(E), the demand increases from M_1 to M_2 in proportion to the price change as the price drops from P_1 to P_2 $\frac{\Delta Q}{Q} \div \frac{\Delta P}{P}$. Elasticity is therefore equal to 1. Theoretically, this is the norm.

Table 9.1 provides a summary of the many types of price elasticity of demand addressed previously. It should be noticed that the scale is the same for all of the demand curves depicted in Fig. 9.1. If these are not drawn on the same scale, it will be erroneous to make assertions about their relative elasticities. Because, it is quite likely that the same demand schedules may have curves with different slopes when the scales along the X-axis are different. It is only when scales are the same will the two demand curves have different slopes representing different demand schedules. Even then, just by looking at the demand curves, we cannot infer precisely anything about elasticities over different price ranges on each curve without some calculation. If two demand curves are drawn on the same scale and we consider the same price range in each case, then only can we assert that a flatter demand curve compares favourably to a demand curve that is steeper in terms of demand elasticity.

Table 9.1: Price Elasticity of Demand (Definition: *e* = Percentage change in the quantity demand + Percentage change in price)

Numerical Value	Terminology	Description
$e = \alpha$	Perfectly (or infinitely) elastic	Consumers have infinite demand at a particular price and none at all at an even slightly higher than the given price.
$e = 0$	Perfectly (or completely) inelastic	Demand remains unchanged, whatever be the change in price.

$e > 1$	Relatively elastic	Quantity demanded changes by a larger percentage than does price.
$e < 1$	Relatively inelastic	Quantity demanded changes by a smaller percentage than does price.
$e = 1$	Unitary elastic	Quantity demanded changing by exactly the same percentage as does price.

On a given scale, the different slopes of a demand curve relating to price elasticity can be compared as in Fig. 9.2.

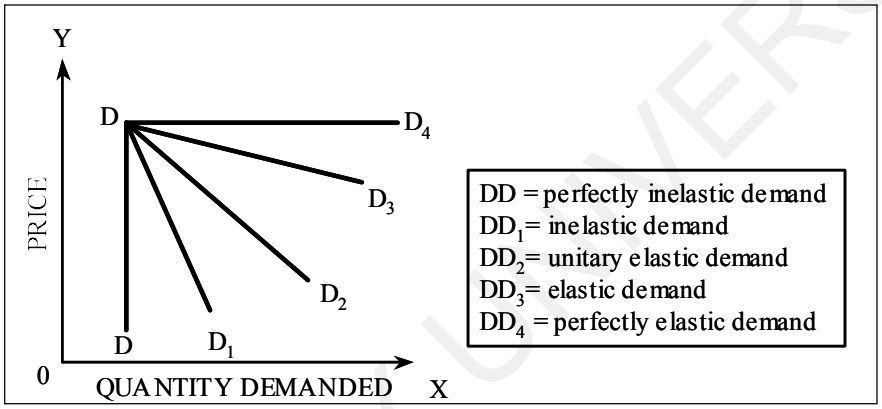

Fig. 9.2: Different slopes of a demand curve relating to price elasticity

In Fig. 9.2, the demand curve *DD* represents perfectly inelastic demand curve and its numerical value is zero. DD_4 represents a perfectly elastic demand curve and its numerical value is infinity (∞). Unitary elastic demand curve is represented by DD_2 and its numerical value is one or unity. DD_1 demand curve represents less than one ($e < 1$) and DD_3 demand curve represents more than one ($e > 1$) elasticity.

Check Your Progress

1. Define price elasticity of demand.
2. What are the kinds of price elasticity?

9.4 MEASUREMENT OF PRICE ELASTICITY OF DEMAND

There are four ways to calculate price elasticity of demand. As follows:

(i) Ratio method or Percentage method or Proportionate method.

(ii) Total outlay method, (iii) Point method and (iv) Arc method.

9.4.1 The Ratio Method

Of these, the ratio method's computation of the coefficient of price elasticity was already covered in the part before using the formula:

$$e = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

It is also known as percentage method, when we measure the ratio as:

$$e = \frac{\%\Delta Q}{\%\Delta P}$$

where, $\%\Delta Q$ = percentage change in demand.

$\%\Delta P$ = percentage change in price.

9.4.2 Total Outlay Method

Marshall said that the simplest approach to determine if demand is elastic is to look at changes in total consumer spending or total seller revenue.

So, total expenditure (or total revenue) equals price minus quantity (purchased or sold).

Marshall established the following claims:

1. Demand is unit elastic (e = 1) when the total outlay does not vary when the price changes. In the situation of unit elastic demand, the total outlay stays constant because the change in demand is proportional to the change in price. Table 9.2 provides an illustration of this.
2. The elasticity of demand is greater than unity when the total expenditure decreases or increases when the price changes. This occurs as a result of demand change proportionally outpacing price change proportionally. In other words, demand is relatively elastic when the price and total outlay shift in opposite directions (see Table 9.2).

Table 9.2: Total Outlay Method

	Price (₹)	*Quantity* (*Units*)	*Total Outlay* (*or Revenue*)	*Elasticity of demand*
Original	2	5	20	–
1. *Change*	4	5	20	$e = 1$ (*unit*)
	2	10	20	
2. *Change*	4	4	16	$e > 1$ (*elastic*)
	3	8	24	
3. *Change*	4	6	24	$e < 1$ (*inelastic*)
	1	16	16	

3. The overall expenditure increases when prices rise, and decreases when prices rise, the total outlay falls, elasticity of demand is less than unity. This happens because the proportion of change in demand is relatively less than the proportion of change in price. Briefly, thus, when the price and total outlay move in the same direction, demand is relatively inelastic (Table 9.2).

The total outlay method may now be summed up as follows:

Table 9.3: Total Outlay Method

Price	Total Outlay	Type of Elasticity
1. Increases	Constant	$e = 1$
Decreases	Constant	(Unitary)
2. Increases	Decreases	$e > 1$
Decreases	Increases	(Relatively elastic)
3. Increases	Increases	$e < 1$
Decreases	Decreases	(Relatively inelastic)

Fig. 9.3 represents the relationship between total outlay (or total revenue) and the price elasticity of demand. In Fig. 9.3, panel (A) represents an upward sloping total outlay curve (T_1) indicating that when the price rises from P_1 to P_2, the total outlay (or total revenue) rises from R_1 to R_2. It means that the demand is relatively inelastic ($e < 1$). Panel (B) represents a vertical straight line total outlay curve (T_2). Here, the total outlay remains unchanged (OR), whether price changes from P_1 to P_2 or *vice versa*. It means that the demand is unitary elastic ($e = 1$). Panel (C) represents a downward sloping total outlay curve (T_2). So, with a rise in price from P_1 to P_2, the total outlay decreases from R_1 to R_2. It means that the demand is relatively elastic ($e > 1$).

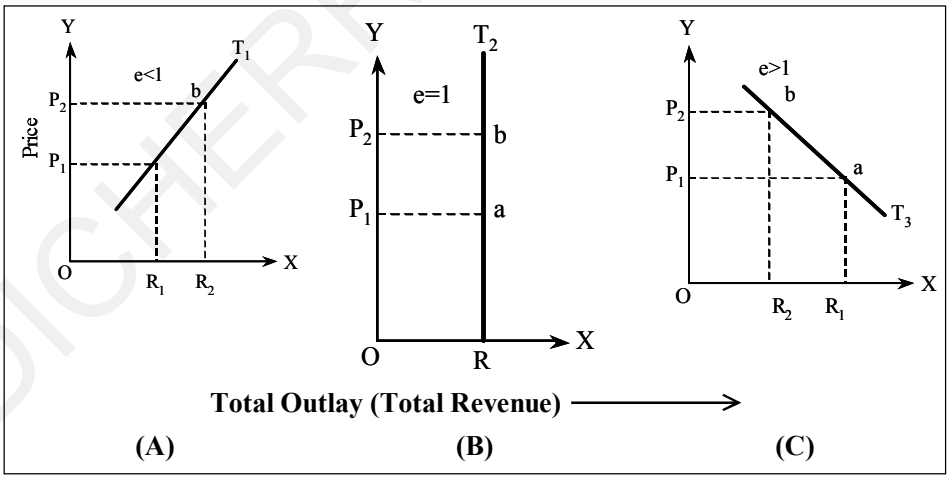

Fig. 9.3: Total Outlay (Revenue) and Elasticity of Demand

Therefore, we may deduce the type of price elasticity of demand from the behaviour of total expenditure or total revenue. Similarly, we can draw conclusions about the type of change in a consumer's total expenditure or a seller's total revenue based on a certain price elasticity. In the case of unitary elastic demand, total revenue is unaffected by price changes. However, in the event of inelastic demand, the total revenue would move in the same direction as the price change, whereas in the case of elastic demand, the total revenue is anticipated to move in the opposite direction of the change in price. However, the total outlay approach of determining elasticity is less precise.

Check Your Progress

3. What is the ratio method of measuring price elasticity of demand?
4. Explain the total outlay method of measuring demand elasticity.

9.5 POINT ELASTICITY METHOD OR THE GEOMETRIC METHOD

For measuring price elasticity at a point on the demand curve, Marshall also proposed the point elasticity method or geometrical method.

To understand the point approach in its most basic form, visualise a linear (straight line) demand curve. As shown in Fig. 9.4, let's stretch the demand curve in a straight line to meet the two axes. The demand curve is split into two segments when a point (such as point P in Fig. 9.4) is displayed on it. Thus, the ratio of the lower segment of the curve below the given point to the upper segment of the curve above the point serves as a measure of the point elasticity.

For the purpose of conciseness, we'll say it once more:

$$\text{Point elasticity} = \frac{\text{Lower segment of the demand curve below the given point}}{\text{Upper segment of the demand curve above the point}}$$

Likewise, to recall it using symbols, we may say: $e = \frac{L}{U}$

where L represents for the lower segment, U for the upper segment, and *e* stands for point elasticity.

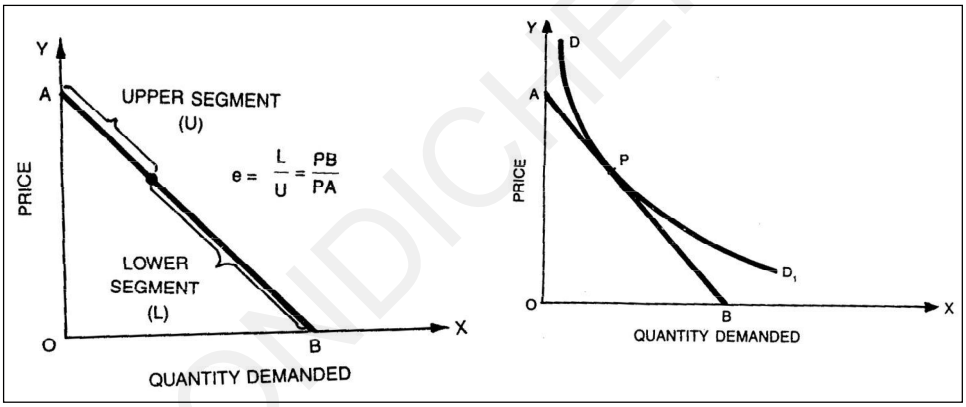

Fig. 9.4: Point Method

Fig. 9.5: Point Elasticity

In Fig. 9.4, P is a predetermined position and AB is the demand curve in a straight line. The lower part is therefore PB, whereas the top segment is PA.

$$\therefore e = \frac{L}{U} = \frac{PB}{PA}$$

If the two components of the demand curve are actually measured and we discover that PB = 3 cm and PA = 2 cm, then the elasticity at point is $\frac{3}{2} = 1.5$.

(The demand curves are represented by PB, the bottom segment, and PA, the higher portion.)

If the demand curve is non-linear, however, then extend the tangent at the given location to intersect both axes (see Fig. 9.5). The ratio of the lower part of the tangent below the supplied point to the higher part of the tangent above the point serves as a measure of point elasticity.

Following that, the elasticity at point P in Fig. 9.5 can be calculated as $\frac{PB}{PA}$.

Regarding point elasticity measurement, it should be noted that different places on a given demand curve have varied point elasticity. This can be proved in two ways. Firstly, by making use of the geometrical formula $e = \frac{L}{U}$, we may measure the price elasticity at different points of a given demand curve as shown in Fig. 9.6. Since a demand curve represents the demand schedule, and the demand schedule has different elasticities at various alternative prices, it goes without saying that price elasticity will differ at different places on any straight-line demand curve.

We can prove this theorem in another way on the basis of treatment followed by Professor Lipsey.

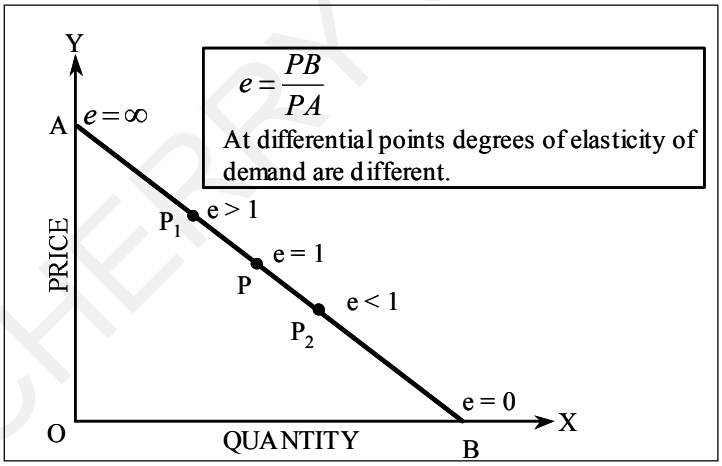

Fig. 9.6: Straight-line Demand Curve

In Fig. 9.6, point *P*, being exactly in the middle, $e = 1$. Between *A* and *P*, any point taken will show $e > 1$. Between *P* and *B*, any point taken will show $e < 1$. At point *A*, $e = \alpha$, and at point *B*, $e = 0$.

We may, thus, conclude that if:

$L = U : PB = PA : e = 1$

$L > U : P_1B > P_1A : e > 1$

$L > U : P_2B < P_2A : e < 1$

$L = 0 : PB = 0 : e = 0$

$L = 0 : PB = 0 : e = \infty$

Check Your Progress

5. Explain the point method of measuring demand elasticity.

9.6 FACTORS INFLUENCING ELASTICITY OF DEMAND

1. **Nature of commodity:**Luxury, comfort, and required commodities can all be classed based on the type of satisfaction they provide. Generally speaking, necessary commodities are price inelastic while luxury and comfort items are price elastic. While the demand for radios, furniture, cars, and other items is elastic, it is typically inelastic for food grains, clothing, salt, and other items.
2. **Availability of substitutes:** When a comparable substitute is available in the appropriate price range, a product's demand will typically be elastic.
3. **Number of uses:** Demand elasticity is typically higher for commodities with composite demand, such as coal or electricity, compared to less elastic demand for single-use goods.
4. **Consumer's income:** In general, the demand for commodities tends to be somewhat inelastic the higher the income. Even with large price fluctuations, a millionaire's demand pattern is rarely altered.
5. **Height of price and range of price change:** Certain products, such as pricey luxury items or large, bulky objects like refrigerators, TVs, etc., are generally quite expensive. In their situation, a slight price change will have little impact on consumer demand. As a result, their demand will be flexible.
6. **Proportion of expenditure:** A consumer's budget includes fewer purchases for items that have a somewhat inelastic demand.
7. **Durability of the commodity:** For durable products like furniture, bicycles, radios, etc., the demand is typically inelastic in the short run. On the other hand, demand is more flexible for perishable goods, such as milk, vegetables, and other foods.
8. **Influence of habits and customs:** There are some items that are in demand due to conventions, rituals, or habits; in these situations, there is less elasticity, such as the Mangal Sutra for a Hindu bride or cigarettes for a smoker.
9. **Complementary goods:** Because of this, jointly demanded goods, like ink and gasoline, have less elastic demand.
10. **Time:** Demand will generally be less elastic in the short term while becoming more elastic in the long term.
11. **Recurrence of demand:** A commodity's price elasticity is stronger when there is recurring demand for it as opposed to when it is only purchased once. Bicycles, tape recorders, radios, etc. are a few examples.
12. **Possibility of postponement:** A product's pricing is elastic if it can be delayed.

Check Your Progress

6. Discuss the factors affecting elasticity of demand.

9.7 INCOME ELASTICITY OF DEMAND

For many items, demand is greatly influenced by income. We may have an income demand function thus:

$D = f(M)$ where, M refers to the money income of the buyer.

It implies that, with other factors remaining constant, the demand may change as a result of a change in the consumer's income. The degree to which demand for a good responds to changes in the consumer's income is measured by the term "income elasticity of demand."

Definition: The ratio of the percentage or proportional change in the amount required to the percentage or proportional change in income is known as the income elasticity.

$$\text{Income elasticity} = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in income}}$$

Symbolically,

$e_m = \left(\frac{\Delta Q}{Q}\right) \div \left(\frac{\Delta M}{M}\right) = \left(\frac{\Delta Q}{\Delta M}\right) \div \left(\frac{M}{Q}\right)$ where, ΔQ = change in demand, Q = initial demand, M = initial income, ΔM = change in income.

Alternatively, $e_m = \frac{\%\Delta Q}{\%\Delta M}$, where, $\%\Delta Q$ signifies the percentage change in demand and $\%\Delta M$ the percentage change in income.

9.7.1 Types of Income Elasticity

Income elasticity on the basis of its coefficient (e_m) may thus be classified as:

(i) Unitary income elasticity of demand,

(ii) Income elasticity of demand greater than unity,

(iii) Income elasticity of demand less than unity,

(iv) Zero income elasticity of demand, and

(v) Negative income elasticity of demand.

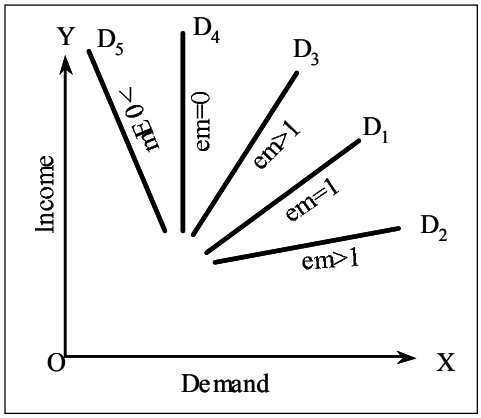

Fig. 9.8: Income Elasticity of Demand

(i) Unitary Income Elasticity: Demand is unitary income elastic when the percentage change in demand is equal to the percentage change in price. Thus, $e_m = 1$. The demand curve with an upward slope and a 45-degree inclination will reflect the income-demand function $D = f(M)$.

(ii) Income Elasticity Greater than Utility: The income elasticity of demand exceeds unity when the percentage change in quantity demanded exceeds the percentage change in price. Therefore, $em > 1$ In this scenario, the demand curve will be flatter as D_2.

(iii) Income Elasticity Less than Unity: The income elasticity of demand is less than unity when the percentage change in demand is smaller than the percentage change in price. In this situation, the demand curve will be steeper, similar to D_3 in Fig. 9.8.

(iv) Zero Income Elasticity: Zero income elasticity of demand occurs when an increase or decrease in income, regardless of direction or magnitude, has no impact on the quantity demanded, remaining constant. So, em equals 0. In this scenario, the demand curve will have a decreasing slope similar to D_5 in Fig. 9.8.

Check Your Progress

7. How will you find income elasticity of demand?
8. Indicate the types of income elasticity.

9.8 CROSS ELASTICITY OF DEMAND

Definition: The cross elasticity of demand measures how responsively demand for one good is to a specific change in the price of another good that is closely connected.

By dividing the proportionate change in the quantity required for *X* by the proportionate change in the price of *Y*, one may calculate the cross elasticity of demand between any two items, *X* and *Y*. Thus,

$$\text{Cross elasticity of demand} = \frac{\text{Proportionate or percentage change in demand for } X}{\text{Proportionate or percentage change in price of } Y}$$

Symbolically,

$$e_{xy} = \left(\frac{\Delta Qx}{Qx}\right) \div \left(\frac{\Delta Py}{Py}\right)$$

Alternatively, $e_{xy} = \left(\frac{\Delta Qx}{\Delta Py}\right).\left(\frac{Py}{Qx}\right)$ or $e_{xy} = \left(\frac{dQx}{dPy}\right)\left(\frac{Py}{Qx}\right)$

where, e_{xy} = cross elasticity of demand – (demand for *X* in relation to the price of *Y*)

ΔQx = change in quantity demanded for commodity *X*

Qx = initial demand for *X*

Py = initial price of commodity *Y*

ΔPy = change in the price of commodity *Y*

(Preferably, *d* instead of Δ is used to represent a point change).

Illustration: To illustrate the use of the formula, take data from Table 9.4.

Table 9.4: Monthly Demand of a Household

Commodity	Original Price (Paise)	Quantity (Units)	Changed Price (Paise)	Quantity (Units)
Tea	30	50	30	60
Coffee	40	30	50	20
Bread	20	80	20	90
Butter	75	80*	60	40*

* (Butter cubes)

1. From Table 9.4, we may take data for tea and coffee, and measure the coefficient of price cross elasticity as under:

   Let X = tea and Y = coffee.

   $\therefore Qx = 50, Qx = 60 - 50 = 10$

   $Py = 40, \Delta Py = 50 - 40 = 10$

   $$\therefore e_{xy} = \frac{\Delta Qx.Py}{\Delta Py.Qx} = \frac{10 \times 40}{10 \times 50} = \frac{4}{5} = 0.8$$

2. Now, let X = bread and Y = butter.

   $\therefore Qx = 80, \Delta Qx = 90 - 80 = 10$

   $Py = 75, \Delta Py = -5$

   $$\therefore e_{xy} = \frac{\Delta Qx.Py}{\Delta Py.Qx} = \frac{10 \times 75}{-15 \times 80} = \frac{-5}{8} = 0.6$$

Therefore, the cross elasticity of demand's numerical coefficient might be either positive or negative. Positive demand price elasticity is present for substitute items. Products that are jointly desired or complementary have a negative cross-price demand elasticity.

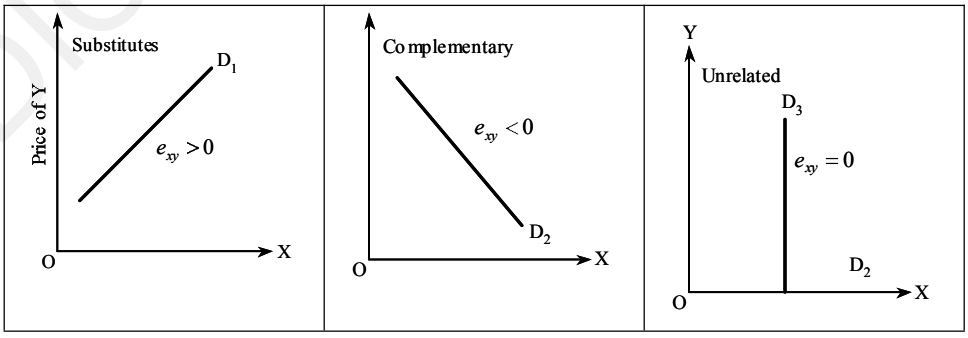

Fig. 9.9: Cross Elasticity

A higher coefficient of cross elasticity obviously means a higher degree of substitutability or complementarity between two goods X and Y. Two unrelated goods have zero cross elasticity. Fig. 9.9 graphically illustrates the cross elasticity of demand. When the demand function like $Dx = f(Py)$ is plotted graphically, it will take different positions as per the price cross elasticity, as shown in Fig. 9.9. It will have an upward slope like D_1 if X is a substitute of Y. It will have a downward slope like D_2 if X is a complementary to Y. It will be a vertical line (D_3) if X is

unrelated to *Y*. Therefore, the demand for *X* is unaffected by any change in the price of *Y*. The cross elasticity of demand is primarily influenced by the characteristics of the items in relation to their uses. When two items satisfy the same demands equally well, the cross elasticity is likely to be strong.

Check Your Progress

9. What is meant by the cross elasticity of demand?

9.9 PRACTICAL APPLICATIONS

1. **To Businessmen:** The idea of demand elasticity is extremely useful in business decision-making since a businessman needs to know the expected impact of price adjustments on the market demand for his goods before deciding on a pricing strategy. He needs to think about things like whether cutting the price will increase demand for his goods, how much demand will increase as a result, and how much profit will result from that increase in overall income. If he is aware of the elasticity of demand for his goods, he may readily determine this.
2. **To the Government and Finance Minister:** The Government places a lot of importance on the idea of demand elasticity when deciding on fiscal policy as well. When choosing which goods to tax, the Finance Minister must take the elasticity of demand into account. Commodity taxes should only be imposed if there is an inelastic demand for the commodities being taxed in order to generate a sizable revenue. In contrast, if the demand is more elastic, it will significantly decrease with an increase in price as a result of more taxes (like sales tax or excise duty).
3. **In International Trade:** The idea can be used to create a nation's export and import policy. The relative elasticities of commodity demand in the two nations are also crucial in deciding terms in the area of international commerce.
4. **To Policy Makers:** The idea can be used in economic research to explain why farmers are still in poverty in spite of a bumper crop. A bumper harvest can only be sold by drastically lowering price because the demand for agricultural products, especially foodgrains, is inelastic. Therefore, despite a larger crop, farmers' overall income will be lower. For policymakers, this indicates that increased farm earnings depend on limiting the supply of foodgrains and other agricultural commodities.
5. **To Trade Unionists:** Trade unions can leverage the idea of price elasticity in salary negotiations. The union officials will seek a higher wage for workers when they discover that the demand for the product produced by their industry is fairly elastic. This will persuade the manufacturer to lower the price and boost sales, which will make up for his loss in overall profit.

Check Your Progress

10. Trace the practical applications of the demand elasticity.

9.10 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The degree to which demand for a product is responsive to a specific change in its price is known as price elasticity of demand.
2. Demand that is unitarily elastic, perfectly elastic, perfectly inelastic, relatively elastic, and relatively inelastic.
3. $e = \frac{\% \Delta Q}{\% \Delta P}$
4. (i) Price increases or lowers while total expenditure stays the same: $e = 1$, indicating that demand is unitary elastic. (ii) Demand fluctuates in the same way as total expenditure changes: $e < 1$, or generally inelastic demand. (iii) If $e > 1$, the demand will alter in the opposite direction of the change in the cost of purchasing the commodity.
5. Point method relates to a point position on the demand curve. If point is in the middle of the demand curve, it means $e = 1$. If the point is on the upward segment, $e < 1$. If the point is on the downward segment of the demand curve, it implies $e > 1$.
6. Elasticity of demand is affected by a number of factors, such as: durable or perishable goods, number of uses of the product, consumer's income, availability of substitutes, range of price change, amount of spending on the consumer or family budget, habit, social customs, complementarity aspects such as pens and inks, recurring demands, postponement, etc.
7. The buyer's income is a factor in the demand for a product's income elasticity. Rich people tend to have inelastic demand for comforts and luxurious products. Poor have highly elastic demand for several goods.
8. The unitary income elasticity of demand: $e_m = 1$ when income changes proportionately to demand changes. Likewise, $e_m > 1$ when the increase in product demand is greater than the increase in income as a whole.

   $e_m > 1$, when a growth in income does not increase in the same manner as the demand for a given commodity.
9. Cross elasticity of demand describes a shift in consumer preferences brought on by a related product's price change.
10. In reality, the idea of demand elasticity is useful to:
    - Businessmen in decision-making about the course of business.
    - Bureaucrats in designing fiscal policy-taxation matters.
    - Exporters in determining exports to a country and quantity as well.
    - Policy makers, as to how much to import capital goods required in the process of industrialisation from which country at a better/reasonable price, and also maintaining political relations. Say, Indian Commerce Minister should import machineries from Russia or China.
    - Trade Unionists in the process of wage bargaining. When demand is fairly elastic for a product in an industry, they may argue for increase in wages and cut down price to increase the sale of the product.

9.11 SUMMARY

- The degree of demand variation is indicated by demand elasticity.
- The degree to which demand for a product responds to a specific change in its price, all other things being equal, is referred to as the price elasticity of demand.
- Total Outlay = Price × Quantity.
- The relationship between the percentage change in demand and the percentage change in income is known as the income elasticity of demand.
- The term "cross elasticity of demand" describes the relationship between the percentage change in demand for one product and the percentage change in pricing of a substitute or comparable product.
- Demand elasticity is taken into account while setting prices. A higher price is profitable when the offered product has a significant degree of price inelasticity.
- Product having more elastic demand, a lowering price causes good sale.

9.12 KEY TERMS

- **Price Elasticity:** The extent of variation in demand in relation to the change in price.
- **Income Elasticity:** The extent of extent of variation in demand in relation to the change in income.
- **Cross Elasticity:** ratio of a product's demand change to the demand for a substitute or complementary offering that is related to it.

9.13 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Give the meaning of elasticity of demand.
2. Define price elasticity of demand.
3. What are the types of price elasticity of demand?
4. Explain the percentage method of price elasticity of demand
5. Explain income elasticity of demand.
6. Explain cross elasticity of demand.
7. State the factors influencing elasticity of demand.
8. What is the importance of elasticity of demand?
9. Explain Arc method. What is point method? Explain total outlay method.

Long Answer Questions

1. Explain the concept and type of elasticity of demand.
2. What is price elasticity of demand? How can it be measured?

3. Explain income and cross elasticities of demand.
4. What are the factors influencing elasticity of demand?
5. Explain the promotional elasticity of demand.
6. What is the practical significance of the concept of demand elasticity?

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Chapter 10 Supply Analysis

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Know the meaning of supply
- Indicate the determinants of supply
- Expose the law of supply.
- Show shifts in supply curve
- Trace the causes of change in supply.
- Explain the elasticity of supply and the determinants

Structure:

10.1 MEANING OF SUPPLY

Supply is a nebulous concept. It is always discussed in terms of cost and timing. Without mentioning price and timing, a supply proposition lacks economic logic. In economic analysis, a statement like "the supply of milk is 500 litres" is useless. The supply at such and such a price and for such and such a length of time must be stated. Second, supply refers to the items the vendor is able and willing to sell. However, a seller's capacity to supply a good depends on the stock he has on

hand. Therefore, supply is determined by stock. Similar to that, another deciding aspect is the seller's will. However, the difference between the reservation price and the going market price, or the price the buyer is willing to pay for the commodity, determines the seller's readiness to supply that item. The vendor is willing to sell more if the final market price is higher than his reserve price. The seller declines to sell at a price below the reservation price. Supply always refers to supply at a specific cost. Depending on the price, the supply could vary. The supply grows and decreases inversely with price.

Check Your Progress

1. Explain this economic meaning of supply.
2. How is supply related to price?

10.2 DETERMINANTS OF SUPPLY

- **The cost factors of production:** The pricing of the various production inputs have an impact on a commodity's cost of production. For a given level of output, production expenses would increase if the cost of a major factor of production increased. On the other hand, if a factor's price dropped, the cost of production would go down. Regardless of the situation, the supply will be impacted.
- **The State of Technology:** The production processes affect a commodity's supply. The most significant elements affecting the productivity of production factors are developments in science and technology. Chemical, electrical, and atomic energy discoveries and advancements, among others, have significantly increased the amount of commodities available at cheaper prices.
- **Factors Outside the Economic Sphere:** Weather-related factors like floods, droughts, diseases, etc. do affect the supply of goods, especially agricultural goods.
- **Tax and Subsidy:** A tax on a good or a factor in production boosts the cost of production, which leads to decreased output. While a subsidy encourages production and increases supplies, the other does not.

10.2.1 Supply Function

The elements affecting supply in a supply function can be summed up as follows:

$$Sx = f(Px, Pf, Py, \ldots, Pz, O, T, t, s)$$

where Sx is the supply of commodity X, Px is its price, Pf are the set prices of the inputs needed to produce X, O are factors outside of the economy, T are the technology utilised, t are taxes, and s are subsidies. The Law of Supply's functional link between supply and price only holds true while other supply-determining factors remain constant.

10.2.2 Individual Supply Schedule

The individual supply schedule shows the quantity of a commodity that a seller would deliver at various alternative prices at a particular point in time or over a certain amount of time.

The individual supply schedule can be represented in tabular form:

Price	Quantity Supplied
5	10
10	20
15	30
20	40
25	50

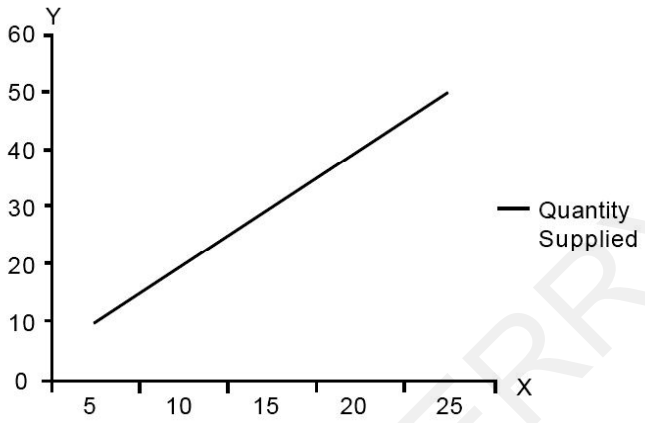

Fig. 10.1: Individual Supply Curve

The above schedule and diagram shows a direct relationship between price and quantity supplied. The supply curve slopes upwards.

10.2.3 Market Supply Schedule

A market supply schedule indicates various amount of commodities that would be supplied by every seller at some point or at some point in time, at different alternative pricing. It is obtained by adding horizontally amounts supplied by all the sellers at each of the alternative prices.

Price	Number of Suppliers			Total Market Supply
	A	B	C	
5	10	15	20	45
10	20	20	25	65
15	30	25	30	85
20	40	30	35	105
25	50	35	40	125

A straight correlation between price and quantity offered is expressed by market supply. More product is provided when the price is higher.

Check Your Progress

3. What are the determinants of supply?

10.3 THE LAW OF SUPPLY

10.3.1 Statement of the Law

In light of the ceteris paribus hypothesis, the law of supply can be expressed as follows: The supply of a product increases (i.e., rises) in response to an increase in its price and decreases (i.e., falls) in response to a decrease in its price, all other things being equal.

The law consequently implies that changes in price have a direct impact on supply. Consequently, more is provided at a greater price than at a lower price on the market.

10.3.2 Explanation of the Law

With the aid of a supply schedule and a supply curve based on fictitious data, the law can be presented and illustrated as follows. (See Table 10.1 and Fig. 10.2):

Table 10.1: Market Supply Schedule

Price of a Ballpen (₹)	Quantity Supplied (in '000 per week)
11	10
12	13
13	20
14	25

A supply curve can be created using the data from Table 10.1 and a graph, as seen in Fig. 10.2.

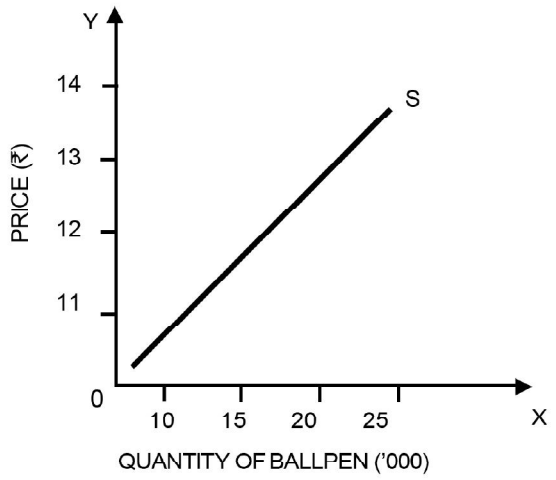

Fig. 10.2: The Supply Curve

According to the supply schedule, market supply appears to expand while prices rise and *vice versa*. The upward-sloping curve similarly shows a direct correlation between price and supply.

Check Your Progress

4. State the law of supply.

10.4 ASSUMPTIONS UNDERLYING THE LAW OF SUPPLY

- **Cost of production is unchanged:** Although the cost of production is constant, it is believed that the product's price would change. Sellers will not find it worthwhile to manufacture more and provide more if the cost of manufacturing rises along with the price of the product. Since the cost of production must remain constant, the law of supply can only be applied. It suggests that the factor prices remain the same as well.
- **No change in technique of production:** It is believed that the production method would remain the same. This is necessary for the price to stay the same. If production costs are decreased due to technological advancements, the seller would supply more even if prices were to decline.
- **Fixed scale of production:** It is expected that the scale of production remains constant during a specific time period. Regardless of the price, the level of supply will change if the production scale is altered.
- **Government policies are unchanged:** Governmental initiatives like trade, tax, and other policies are taken for granted. For instance, levying excise duties at a higher rate or entirely from scratch would result in higher prices, and setting restrictions for raw materials or imported parts will prevent the supply of a good from growing.
- **No change in transport costs:** It is presumable that transportation resources and expenses won't alter. A decrease in transportation costs entails a decrease in manufacturing costs, allowing for greater supply at a lower cost.
- **No speculation:** It is presumable that transportation resources and expenses won't alter. A decrease in transportation costs entails a decrease in manufacturing costs, allowing for greater supply at a lower cost.
- **The prices of other goods are held constant:** The law presupposes that the costs of other goods won't change. The manufacturers may shift their resources to the other profitable product if the price of that product grows more quickly than that of another product.

Check Your Progress

5. State the *ceteris paribus* assumption of the law of supply.

10.5 CAUSES OF CHANGE IN SUPPLY

- **Cost of production:** Given the price, the supply fluctuates as the cost of manufacturing changes. Supply will decline if the cost of production rises as a result of higher wages or higher raw material prices.
- **Supply also depends on natural factors:** Floods, a lack of rain, pests, earthquakes, etc. could all affect the supply.
- **Change in technique of production:** This has a significant impact on supplies. A significant increase in supply might be achieved by improving the production process.
- **Policy of government also influences supply:** Supply reductions could result from production, sales, import levies, and import limitations.
- **Development of transport:** The supply of products rises logically as transportation infrastructure advances, making travel easier.
- **Business combines:** The producers may also agree to reduce the supply through their commercial alliances, such as a trust, cartel, or syndicate, in an effort to drive up prices.

Check Your Progress

6. Trace the causes of change in supply.

10.6 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Supply means the volume of a product that the vendor is willing to sell at a specific price per interval of time. Supply is a relative term.
2. Supply is a direct function of price, other things being equal.
3. Supply is influenced by a number of variables, including cost of production, price, technological advancements, meteorological conditions, natural disasters, government levies, and subsidies.
4. The law of supply states that the supply is directly related to price based on the *ceteris paribus* assumption that the determinants of supply are unchanged.
5. If the product supply exceeds the demand, prices will likely fall only if other factors remain unchanged.
6. Change in supply are changes in the costs of production, natural factors, techniques of production, government policy, development of transport and business combines.

10.7 SUMMARY

- Supply is a relative term.
- Supply is referred to in relation to price and time.
- Supply is what the seller is able and willing to offer for sale.

- Supply rises with price rise.
- Supply curve slopes upward.
- The law of supply that the supply is directly related to price is based on the *ceteris paribus* assumption that the determinants of supply are unchanged.

10.8 KEY TERMS

- **Supply:** Availability of the product being sold at a specific price.
- **Supply schedule:** A table listing the quantities of the commodity being sold at various prices.

10.9 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is meant by supply?
2. How is supply related to price?

Long Answer Questions

1. What are the determinants of supply?
2. State and explain the law of supply.
3. Trace the causes of change in supply.
4. Mention the assumptions underlying the law of supply.

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Chapter 11 Consumer Surplus and Producer Surplus

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Define consumer surplus
- Measure the consumer surplus
- Explain the meaning of producer surplus
- Explain the concept of market efficiency

Structure:

11.1 INTRODUCTION

In mainstream economics, concepts of consumer and producer surplus are introduced by Dupit. Alfred Marshall, however, presented in a much refined terms.

11.2 MEANING OF CONSUMER SURPLUS

To describe the consumer's gain from the items he purchases in a market economy, the notion of consumer surplus has been developed. According to Marshall, when a customer purchases a something, the satisfaction he derives from it may outweigh the discontent he feels over having to part with money to pay for it. "*Consumer surplus*" is the term used to describe this excess of satisfaction.

When compared to the marginal utility of the money he must spend, a consumer is willing to pay the price of a good up to that point. When a good's market price is lower than its marginal utility, the consumer experiences greater happiness, or "consumer surplus." Thus, the difference between the maximum price a consumer is ready to pay for a good and the amount that is actually being charged on the market can be used to calculate consumer surplus.

Definition: Consumer surplus (CS) is the difference between what a consumer would have been willing to spend overall on a certain quantity of a good and what he actually paid for it.

The law of diminishing marginal utility serves as the foundation for the notion of consumer surplus.

Check Your Progress

1. Define consumer surplus.

11.3 MEASUREMENT OF CONSUMER'S SURPLUS

Fig. 11.1 depicts a graphical representation of consumer surplus.

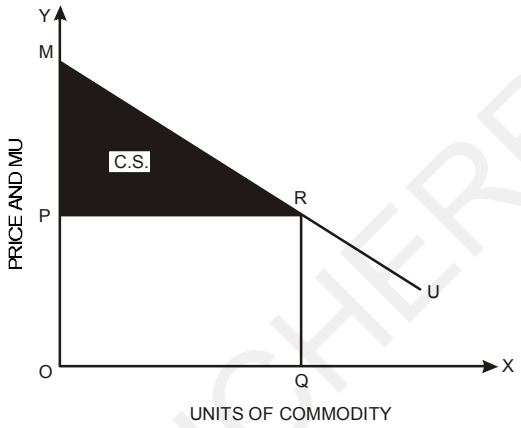

Fig. 11.1: Consumer Surplus

If *OP* is price, *OP* is the unit purchased.

MU of *OQ* = Price *OP*

Total money paid = *OP* × *OQ*

(Price paid) = *OPQR*

Total utility = *OMRQ* (Price prepared to pay)

OMRQ – OPRO – MRP

(Consumer's Surplus).

The consumer's surplus is relative concept, because utility is a relative term. The consumer's surplus of the same commodity may vary from person-to-person and from time to time. Consumer's surplus also differs from commodity-to-commodity.

Check Your Progress

2. Depict the measurement of consumer surplus.

11.4 ANALYSIS OF THE MARSHALLIAN APPROACH

Marshall bases his concept of consumer surplus on the following assumptions:

1. **Cardinal measurement of utility:** The benefits gained by the consumer from his purchase of a commodity is measured by Marshall using the premise that utility can be measured numerically or cardinally.
2. **Diminishing marginal utility:** The law of diminishing marginal utility is also included in the notion of consumer surplus. As a result, when a consumer purchases more of a commodity at the same price, the excess of utility tends to decrease. Thus, the last unit purchased by the consumer of equilibrium point has zero consumer's surplus, since he stops buying at the point when *MU* = price. So, there is no extra gain of utility. The concept of *CS*, thus, involves *ceteris paribus* assumptions.
3. **Constant marginal utility of money:** The assumption is that the marginal utility of money stays constant during the exchange transaction. This assumed to eliminate the influence of income effect in the measurement.
4. **Existence of no substitutes:** Marshall assumed that the commodity in question has no substitutes. In his view, for the measurement of *CS*, each commodity is to be treated as an absolutely independent one. On practical considerations, he suggested that in cases where substitutes are found, they should be grouped together to form a single commodity.
5. **Specificity of utility:** Marshall made the supposition that a commodity's utility is only dependent on its quantity. Therefore, each commodity should be regarded as an independent commodity. This calls for the assumption of no substitutes, as mentioned above.

Check Your Progress

3. State the assumptions based behind the concept of consumer surplus.

11.5 CRITICISMS

1. **Unrealistic assumptions:** Marshall's theory of consumer surplus is founded on a false premise because:
   (a) Cardinal utility measurements are impossible. As a result, the surplus of the consumer cannot be quantified or expressed in numbers.
   (b) Money's marginal utility changes throughout time.
   (c) He will buy other items if commodities have replacements and prices rise rather than paying more for the same thing. The idea lacks any theoretical support.
2. **Measurement impossible:** Marshall tries to express the gain of consumer's benefit from a commodity in terms of money through the measurement of difference between what he would be willing to pay and

what he actually paid. And, again, he assumed marginal utility of money to remain unchanged throughout the demand curve. Critics argue that *CS* being a subjective phenomenon, it cannot be exactly measured in monetary terms. Once more, the consumer's marginal utility of money may not remain constant when he starts spending his income. Further, the entire concept is hypothetical.

3. **Meaninglessness of the concept in certain cases:** Applying the CS theory to necessities is pointless. Because consumers draw infinite value from necessities like water and would be prepared to pay anything to avoid being without it. Thus, in the case of necessaries like water, *CS* may be infinite.
4. **It is a hypothetical and illusory concept:** It doesn't really exist. In our minds, we imagine a CS. There is no factual realisation of *CS*, by an ordinary consumer.
5. **No empirical test:** Marshall did not provide any data or empirical evidence in support of this concept. It is a purely subjective phenomenon.
6. **Impractical concept:** "The doctrine of consumer's surplus is a useless theoretical toy, having no practical significance," says Prof. M.I.D. Little.

Check Your Progress

4. What criticisms levelled against the Marshallian concept of consumer surplus?

11.6 IMPORTANCE OF THE CONCEPT OF CONSUMER SURPLUS

The theoretical and practical importance of the concept of *CS* may be pinpointed as under:

1. **It clarifies the paradox of value:** By highlighting the difference between value-in-use and value-in-exchange, the consumer's surplus idea aids in the clarification of the paradox of value. Paradox of value may be seen in the market value of some commodities like diamond and water. Despite having little price or value in exchange, water has enormous worth in use. while diamond has high value-in-exchange despite its low usefulness. The excess of the consumer is determined by the disparity between the price and marginal utility. Thus, a high consumer surplus indicates that a commodity has a high value in usage as opposed to its trade value. In articles like salt, matches, etc. the *CS* is high, while diamond and other luxuries have a low value-in-use less consumer's surplus.
2. **Conjectural advantage:** The idea of consumer surplus does highlight the comforts we have access to in a contemporary economic environment. Our surroundings and the chances for consuming that are accessible to us, such as the lifestyle amenities in America as contrasted to Central Africa, determine a large portion of the consumer surplus that we experience.

Thus, it clarifies the significance of conjecture. Thus, the idea functions as a gauge of economic advancement.

3. **Importance to the monopolist:** It is helpful in figuring out a monopoly firm's pricing strategy. If consumer surplus is high, the monopolist can raise the price of the goods without seeing a drop in sales.
4. **Importance in taxation policy:** It is of great significance to exchequer. In areas where consumer surplus is high, the finance minister may impose higher taxes.
5. **Importance in welfare economics:** It is possible to gauge the disparity in consumer surplus enjoyed by various communities.

Check Your Progress

5. Trace the significance of the concept of consumer surplus.

11.7 PRODUCER SURPLUS

It is the sum of money that the producer makes when their product is sold on the open market. that is really the excess of the amount at which he is willing to supply the product. The producer surplus is the difference between the price the producer is willing to sell at and the price that is actually prevailing in the market. Thus,

Producer's Surplus = Prevailing Market Price – Minimum Selling Price Expected, *i.e.*, Reservation Price. In graphical terms, the producer's surplus is measured through the Marshallian Cross as under:

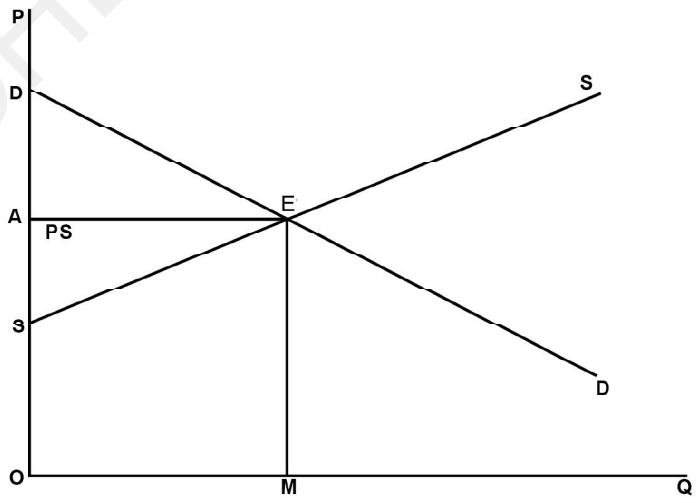

Fig. 11.2: Producer's Surplus (PS)

In Fig. 11.2, the supply curve is shown by SS, and the demand curve is shown by DD. The marginal cost is the basis of the supply curve. Technically speaking, the firm exports price = marginal cost for each unit of output. In contrast, the point E where the supply and demand curves converge determines the market price. As a result, OA represents the market price and OM represents the seller's production at

an equilibrium level. Thus, area *OMEA* represents the total revenue. Area *OSEM* represents the expected sales revenue. The excess of revenue *SEA* realized is the producer's surplus. Producer's Surplus = *OMEA – OMES = SEA*

Check Your Progress

6. What is meant by producer surplus?

11.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The discrepancy between the entire amount of money a consumer is willing to spend on a good and the actual price he pays for it.
2. $CS = (TU) - (P \cdot Q)$

   where, CS = Consumer surplus

   TU = Total utility

   $P \cdot Q$ = Total monetary payment for the product.
3. Consumer surplus theory is predicated on *ceteris paribus* presumptions.
4. Since no cardinal measurement of utility is possible, consumer surplus tends to be an immeasurable concept in reality. It is an illusionary idea. It is devoid of empirical test.
5. The concept is significant on certain counts:
   (i) It explains paradox of value.
   (ii) It is useful to a monopolist in deciding his price policy.
   (iii) Government can levy taxes on items having high consumer surplus, without causing much protest of the people.
   (iv) It is a cornerstone of welfare economics.
6. Producer surplus = Prevailing market price – Reservation price for the product being offered.

11.9 SUMMARY

- Consumer surplus refers to the discrepancy between the highest price a consumer is willing to pay and the actual market price a seller is asking for a product.
- Consumer surplus is a relative term.
- The cardinal measurement of utility that Marshall assumed forms the foundation of the idea of consumer surplus.
- Since in reality utility cannot be measured in cardinal sense, consumer surplus cannot be expressed in numerical terms.
- Nonetheless, the consumer surplus idea has significance in clarifying the paradox of value. It is also widely adopted in welfare economics.
- Producer surplus = Prevailing market price of the product – Minimum selling price expected by the produce.

11.10 KEY TERMS

- **Consumer Surplus:** Price a consumer is willing to pay *minus* actual price paid.
- **Producer Surplus:** Excess of prevailing market price against the expected price for the product being offered.

11.11 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is consumer surplus?
2. What is producer surplus?
3. How will you measure consumer surplus?

Long Answer Questions

1. What is meant by consumer surplus? Critically examine the concept.
2. What is consumer surplus and producer surplus? Trace the significance.

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Chapter 12 Market Efficiency: An Overview and Market Failure – Case for Government Intervention

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Define market efficiency
- Trace the causes of market failure
- Indicate the role of the government towards correction
- State the tools of govern intervention

Structure:

12.1 INTRODUCTION

The concept of market efficiency was first used by Eugene Fama. Market efficiency is the extent to which market prices represent all information that is available to market participants.

12.2 MARKET EFFICIENCY

By and large, the market economy is considered to be a credible arrangement for the optimal allocation of resources that maximises satisfaction derived by the people interacting in the economic activity. Prof. Mankiw of Harvard University rightly puts that Market Efficiency is looked upon as "the property of a resources allocation of maximising the total surplus (of consumers and producers)". Market Efficiency is seen in terms of the optimisation of resource use. Market efficiency is perceived as an attribute of market economy contributing to economic welfare in the society. It is measured in terms of total surplus value gained by the buyers and sellers in their transactions.

Thus,

Market Efficiency (*ME*) = Total Surplus Value (*TSV*) of the Market Transactions

= Consumer Surplus (*CS*) + Producer Surplus (*PS*)

In symbolic terms:

CS = Price Consumer Willing to Pay (X) – Actual Market Price (Y)

PS = Actual Market Price (Y) – Minimum Selling Price Expected (or Actual Costs) to Sellers (C)

$TSV = CS + PS$

$TSV = X - Y + Y - C$

$TSV = X - C$

(**Meaning:** Total Surplus Value = Consumer Surplus Value to a buyer of a given product *minus* Cost of the Products to the seller.) In this way, total surplus value of one product in the market measures the market efficiency of single products to a single buyer and single seller.

In the course of market equilibrium, using the Marshallian cross of demand and supply curve, finding the entire surplus value as the sum of consumer and producer surplus is simple as given in the diagram (Fig. 12.1).

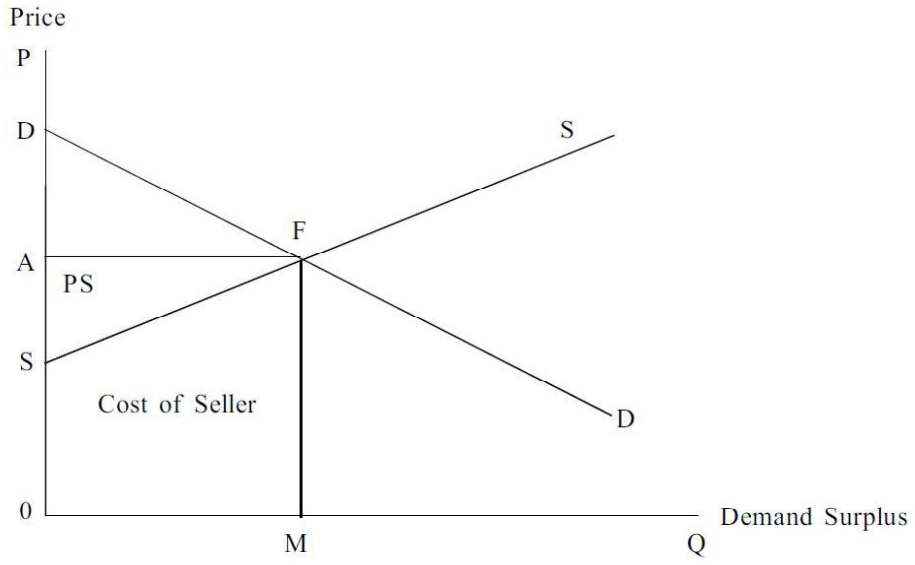

Fig. 12.1: Total Surplus Value

In Fig. 12.1, $P^{\times}$ is the equilibrium market price established at point *E*, when supply and demand curves *D* and *S* converge. *OQ* is the equilibrium quantity of demand and supply.

It follows that:

Consumer's Surplus (*CS*) = $P^{\times}CE$, Producer's Surplus (*PS*) = $P^{\times}PE$

Cost to Seller = *OPEQ*

Total Surplus Value = $P^{\times}CE + P^{\times}PE = PCE$

Thus, Market Efficiency (*ME*) = *PCE* area.

For the competitive market as a whole, total buyers' consumer surplus and total sellers' producer surplus is to be aggregated.

Thus,

$ME_i = \Sigma TSY_i = \Sigma X_i - \Sigma C_i$

where,

ME_i = Market efficiency measured for product *i*

ΣTSY_i = Total surplus value of the product *i*

ΣX_i = Total consumer value to all the buyers for product *i*

ΣC_i = Total cost of product *i* to the seller in the market

The economic logic is further extended in the same line for all the buyers and all the sellers of all the goods and services transacted into the market economy as a whole.

Check Your Progress

1. What do you mean by the market efficiency?
2. How will you measure the market efficiency?

12.3 MARKET FAILURE

1. **Economic instability:** The market economy is crucially dependent on the level of demand in the economy. A change in demand — either a fall or a rise — brings out a change in the host of connected variables and could seriously upset the economy of a country. For instance, a fall in demand for a commodity could bring down its price, depressing and probably leading to retrenchment of labour employed. This phenomenon called depression could become and pervade the whole economy.
2. **Economic inequalities:** The right to private property and to its inheritance is fundamental in a market economy. It enables an individual to amass as much property as he can and inherit as much as his ancestors have left for him. The right to inheritance enables an individual to enjoy the income from the property inherited without in any way personally contributing to the productive assets of the economy.
3. **Wastage of valuable resources:** The market economy in its attempt to allow the free play between demand and supply forces bestows upon the producers, freedom to produce, which then results in unrestricted competition among them. Since each producer takes decision as regards how much to produce independently of other producers, there could take place production in excess of market demand resulting in glut of output and consequent waste of resources invested in unsold production.
4. **Rise of monopolies:** Competition among producers insofar as it is healthy, promotes the quality of product, and therefore, productive efficiency. In reality, however, the competition often turns into cut-throat rivalry among producers, and the strong and the established among them can drive away the newcomers from the market so monopoly grows.
5. **Divergence between social and private costs:** Social costs are costs of some activity that are borne by the society as a whole and private costs are costs of that activity borne by an individual or a firm carrying out that activity. In a market economy, firm's calculation of cost of a particular activity that it wants to carry out (private cost) often does not include the cost that the society has to bear because of that activity (social cost). This is because of the emphasis that the market economy lays at the individual self-interest even at the cost of the interest of society as a whole.
6. **Immobility of factors of production:** The market economies are often characterized by imperfect factor increments.
7. **Inability to provide collective consumption goods:** Certain goods and services must be collectively consumed and no market exists where people wanting to consume them can buy such goods. National defence or the services of the city police force are good examples on point.
8. **Inability to bear high cost of collecting revenue in the case of certain goods:** In some cases, a good may not be a collective consumption good. Still it would not be suitable for private production on account of a very

high cost of collecting the revenue from individual consumers. If the production of such goods is left to the market mechanism, the good will not be produced at all.

9. **Inability to protect individuals from wrong decisions:** The market economy assumes that every member of the society is wise enough to take his own decisions. In reality, however, an individual may often take wrong decisions for himself and sometimes even for others.
10. **Disregard for humanitarian considerations:** The market mechanism operates in a ruthless manner. If allowed to operate its plain logic, the free market system would require small business units to compete with the established industrial entrants. It would require that inefficient units close down though such a closure could mean mass retrenchment. The market system holds no compassion system.

Check Your Progress

3. Discuss the problem of market failure in the economy.

12.4 THE ROLE OF THE GOVERNMENT

12.4.1 Growth of Natural Monopoly

In case of infrastructure services such as power, water supply, rail, roads and ports, operation on a large scale gives rise to natural monopoly due to increasing returns. Price tends to be greater than marginal cost in monopolistic conditions, and output may be constrained below optimal levels, meaning social waste and consumer exploitation.

12.4.2 Public Goods

Goods which are non-exclusionary in consumption and provided by the government. Public goods are the goods which satisfy collective wants or social wants in general. An important characteristic of public or social goods are not subject to "exclusion principle", in their use. That is to say, individuals cannot be excluded from consuming a public good (which justifies collective wants), even if they do not pay for it. As such, market may fail to provide public goods or it may be underproduced in the market system. As a result, it becomes necessary for the government to take on the burden of funding public goods using tax dollars. Because the satisfaction or enjoyment of social demands cannot be justified by price payments, they cannot be met through the process of the market mechanism. A major difference between private and social wants is that the former can be adequately provided by the market, but the latter cannot be satisfied in the market as their enjoyment cannot be related to direct price payment. Public goods are either social or merit goods satisfying collective and merit wants respectively. The benefits accruing from social goods are external. Their consumption is made collectively by all the members in the society. So, they are not subject to the exclusion principle. Defence, law and order, public parks, etc. are reckoned as

social goods. Private enterprise will not produce such goods. The state has to provide them.

12.4.3 Externalities

Externalities refer to spillover or neighbourhood effects. Externalities exist both in consumption and production. When a consumer's level of consumption of a given good or service directly impacts the well-being of another consumer, there are externalities in consumption. The market system's price mechanism does not transfer this effect. Externalities related to consuming include: Consider a situation where someone seeks seclusion and instals a high fence that could block the sun from reaching his neighbor's home. Similarly, a person when he plays music on loud speakers may create noise pollution or disturb the sleep of his neighbour. The government should intervene by introducing tax subsidy schemes for correcting the externality effects. The government may put penalties or levies on activities causing reduction in welfare or increase in costs. For example, chemical and such other industries causing pollution may be taxed additionally and the funds so raised may be used for the corrective measures. Similarly, there are also cases of mixed production/consumption externalities. For example, night flights by jet airplane may disturb the sleep of residents in the neighbouring area of an airport. Similarly, touring buses may increase congestion on a highway and cause slow down of the speed of lorries causing delay in deliveries of goods. The existence of externalities provide a strong argument for government intervention. For instance, the government may give subsidies on activities which add to welfare.

12.4.4 Pollution and Environmental Distortion: Externalities Spillover Effect

Pollution is the price people pay for growth and development in modern times. Pollution refers to the external effect of industrial production process on the geographical environment of the country. It implies environmental distortions and health hazards to the people. It is considered to be a high social cost with a negative impact on general welfare. The government in a county, therefore, has a major role to play in pollution control. The government can use its authority to require all the industries to minimize the external effects of production, by setting priorities, policies and laws in maintaining the prescribed standard of the environmental quality. The government agency has to spell out environment quality standards.

12.4.5 Uncertainty and Trade Cycles

There are several chances of uncertainty in business when the probabilities of outcome resulting from specific action are not known and cannot be predicted because of their subjective nature. Business expectations which determine marginal efficiency of investment or the expected rate of profitability in a business venture are basically based on entrepreneurial psychology; hence, uncertain.

12.4.6 Lop-sided Distribution

The distribution effect of market system in generation of income is generally lop-sided. It usually favours the rich or those who have command over the

productive resources. Haves tend to get more, whereas have-nots are deprived. There is no equal sharing of the national cake in the market process of distribution.

12.4.7 Unbalanced or Slow Growth and Development

In less developed countries, growth and development have remained slow or lop-sided under the unintervened market economy. The private sector did not care to provide for the necessary infrastructure and creation of industrial base in the country. There has been capital deficiency caused by low level of capital formation which puts the country into the vicious circle of poverty and low level of equilibrium trap. To break the vicious circle of poverty, therefore, public sector investment programming and planning are needed.

The government can promote economic growth in the following manner:

(a) By providing economic and social overhead facilities.

(b) By influencing the attitudes and course of action of the producers, consumers and the general public.

(c) By bringing about institutional, organisational and structural changes.

(d) By augmenting the supply and increasing the mobility of the factors of production.

(e) By controlling economic fluctuations.

(f) By filling up the deficiency of effective demand.

(g) By controlling the supply of money.

(h) By direct participation in the public sector investment which stimulates private investment.

(i) By innovations.

12.4.8 Equity Objectives

It is assumed that the egalitarian goals or social justice can be effectively ensured by reasonable prices and fair distribution practices of the government business enterprise in provision of certain essential and monopolized items of common consumption. A good government is an absolute necessity for any economy.

12.4.9 Growth of MNCs

Some mega MNCs of developed countries-origin are economically bigger than most geographic regions of small nations. Even, big businesses, today, are becoming bigger than the Big States. Apple Inc., for example, reported to have market capitalisation touching USD 3 trillion which is more than the GDP of all the countries of the world excluding the US, China, Germany and Japan. Globalisation has blurred the distinguishing boundaries of nationhood.

Check Your Progress

4. Trace the role of government action intervening in the market for corrections.
5. Indicate the tools of government intervention for correcting the market disorders.

12.5 TOOLS OF INTERVENTION

The government has power. It can intervene into the working of the market mechanism. It can have active participation in the field of economic activity by extension of the public sector. It can undertake certain measures of control.

12.5.1 Legislative Measures

The state can enact and enforce laws preventing the emergence and growth of monopolies. Especially, laws should prohibit unfair trade practices which lead to the restriction on entry of new firms and encourage competition.

12.5.2 Promotion of Competition

To eliminate market imperfections, the best course is to promote competition in monopolist industries.

12.5.3 Control of Price and Output

The method of price control is usually adopted by the government for regulation of public utilities of natural monopolies. To safeguard the interest of consumers and prevent their exploitation by the monopolist, the government may fix maximum statutory prices for the products supplied by him.

12.5.4 Fiscal Measures

Usually, there exists excessive monopoly profit. Since it leads to inequality of income distribution and concentration of economic and political power in a few hands, it has been contended that the government can control such abuse of monopoly power through fiscal means, especially through the imposition of heavy taxes on monopoly profits.

12.5.5 Nationalisation

Conventional wisdom says that in those industries in which there is possibility of monopolistic situation arising because of their inherent tendency to monopolize, public monopolies may be set up. Public ownership of such monopolies, especially natural monopolies like public utilities (postal service, water supply, electricity generation and distribution, gas supply, etc.) is deemed to be far superior to the control and regulate the private monopolies.

12.5.6 Provision of Public Goods

Since the market mechanism does not provide goods, the government action is necessary to provide public goods as defence, police, judiciary, roads, street lights, water supply, etc. through budgetary means.

12.5.7 Economic Planning

The government may introduce indicative planning and provide incentive to the private firms to undertake desirable productive activity in a market economy. A sectoral planning and programming may be designed to channelize resources in a desirable manner to correct imbalances of growth process.

12.6 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Market efficiency refers to the optimum allocation of resources in the productive activity leading to the maximum satisfaction derived by the interaction of people involved in the economic activity.
2. Market Efficiency = Total Surplus Value of the Market Transactions measured by adding Consumer Surplus and Producer Surplus together of a given product.
3. The market mechanism in a free enterprise economy in reality cannot be working so smoothly as presumed by the classical economist like Adam Smith. It is quite likely to be prone to fail in certain respect, such as:
   (i) Economic fluctuations causing economic uncertainty and insecurity owing to lack of stability.
   (ii) It is subject to inflationary pressure. Inflation carries undesirable effects on the standard of living of the fixed income group. Poor people are pushed to the further state of misery.
   (iii) Unhealthy competition among the producers in the free enterprise capitalist economy may cause cut-throat rivalry that would imply stronghold of the established producers while driving away the newcomers. This may tend to affect the interest of the consumers section in getting more varieties of products at lower costs.
   (iv) Markets are usually inefficient in providing collective consumption goods needed in the modern society. Defence or police services, for instance, cannot be handled as needed by the country.
   (v) Public goods such as roads, bridges, etc. being collective wants, besides merit wants, such as free primary education by the schools for the poor or low-income groups are not managed by the private sector producers who eyes on profits only.
   (vi) Speculative activity in a free unchecked market may tend to distort the real order of the economy.
4. To check the possibilities of market failures, the government intervention is inevitable:
   - In supplying social goods, such as rails, roads, etc., the government monopolies should replace the private sector monopolies, to save the country at large from undue exploitation.
   - Provision of merit goods, such as education and health, are needed to be provided by the government in enhancing the socio-economic welfare.
   - Pollution causing natural environmental distortion is the price people have to pay as the hidden cost of industrialisation growth in the county.
   - Focus on green business is essential. Greening business implies promoting and stressing on most efficient uses of renewable

resources – trees, jungles, etc., clean technology, waste minimisation and recycling.

5. The government may resort to legislative measures, price controls provident fiscal policy, provision of public goods, economic planning.

12.7 SUMMARY

- The market efficiency implies the optimum usage of the resources.
- Since in reality, perfect competition hardly exists, market efficiency will not ever be the maximum.
- Market failure implies economic instability.
- Economic inequalities tend to be a common phenomenon of failure under the market-oriented system of working.
- Markets have failed to provide free primary education in developing countries. Market mechanism cannot satisfy all the social need, for example, collectively consumed consumption goods. Hence, the state has to provide them. Gloring example is defence service.

12.8 KEY TERMS

- **Market Efficiency:** Optimal allocation of productive resources.
- **Externalities:** Spillover effects.

12.9 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is meant by the market efficiency?
2. Give main reasons for the market failure.

Long Answer Question

1. Examine the mode and methods of the government to deal with the problem of the market failure.

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Chapter 13 Household as Consuming Unit: The Consumption Decisions

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Understand the scale of preference
- Give the meaning of consumption
- Study the Marshallian concept of utility

Structure:

13.1 INTRODUCTION

The way a household behaves affects how much of a commodity is demanded. The sum of individual demand makes up the market demand. A consumer is sovereign in a market economy. He chooses his wants and buys goods accordingly to satisfy him. Consumer's preference is thus very important in determining the pattern of demand as well as the forms of production in a market.

13.2 SCALE OF PREFERENCE

Scale of preference means the arrangement of wants and the relative preference of goods in accordance with the degree of intensity or urgency of

different wants. We have to arrange our wants according to our scale of preference, because our means to satisfy our wants are limited. It is because our wants are of varying importance and they can be arranged on our scale of preference, so that choice is possible.

Check Your Progress

1. Explain the meaning of scale of preference.

13.3 CONSUMPTION

Consumption is the action of consumer for using a product for the satisfaction of the given want. Consumption, however, does not imply the using up or the destruction of goods. In the consumption process, there is destruction of utility. Its end result is the satisfaction of want. However, when perishable products are consumed, the good is also used up or actually consumed along with the loss of utility. As it is consumed, it disappears or vanishes. *e.g.*, when we drink milk or tea, eat banana or biscuits, they are also destroyed together with the destruction of utility for satisfying our thirst or hunger. Whereas in the case of durable goods, though their utility is destroyed, goods remain in existence. The depreciation of such goods is slow. So, the same goods go on satisfying our wants again and again. Their utility remains till they become old and deteriorate or break.

13.3.1 Importance of Consumption and Consumers

- Economic activity begins and ends with consumption. Consuming products allows one to fulfil their wants. Additionally, the foundation of economic activity is desire. Thus, the desire for consumption comes before production.
- Production and consumption are associated with each other. Without production, consumption is not possible; without consumption, production is useless. In a market-oriented economy, consumption behaviour of the consumer and their demand determine the production.
- Both the government and businessmen should lay emphasis on the satisfaction of the consumers.
- The 24th of December is recognised as National Consumer Rights Day in India. The 1986 Consumer Protection Act stipulates effective safeguards to consumers against various types of exploitations and unfair dealings.

Check Your Progress

2. Define consumption.

13.4 HOUSEHOLD CONSUMPTION DECISIONS

Household purchase decisions about consumption can be of two types:

- Consensual purchase decision, and
- Accommodative purchase decision.

Under the consensual approach, the householders tend to satisfy the family's and individuals member's needs in accordance to the appraisal of all the family members. In cities, especially, Indian women's education and awareness have been making them confident and assertive at home and also at workplace implied a new family dynamics in behaviours and demands.

- In short, household decision-makers are of three kinds: husband (man), wife (woman) and children.
- There trends to be some autonomous decisions of individuals and some joint decisions taken by the family members.
- Today, the impact of movies and magazines on fashions, fashionable goods markets are rearing in business.
- Income of the family or a person is a denting measure of the purchasing power of a household. Apparently, more spending or purchasing power is signified by the higher income levels.

13.5 SCALE OF PREFERENCES

The "Scale of Preferences" of a consumer was a notion proposed by Professor Hicks that serves as the foundation for the indifference curve technique. Hicks proposed ordinal measurement in place of the Marshallian cardinal assessment of utility. Ordinal measurement refers to comparison and ranking without quantification of the degree or range of the consumer's satisfaction. The level of satisfaction, as opposed to the total amount of satisfaction, is considered utility in the ordinal sense. Although not quantitative, the amount of enjoyment is often comparable. Hicks notes that it is possible to observe the preferences that consumers exhibit while deciding between various commodities through experience and trial. He claims, however, that contrary to what the marginal utility theory assumes, people do not only have an interest in one product at a time. In general, buyers are occasionally interested in a variety of goods and the satisfaction that comes from combining them. They can also constantly contrast the degree of satisfaction produced by one specific mix of items with that of another combination. In actuality, the quantity of goods in stock has a growing impact on the level of pleasure. Evidently, a larger inventory of things produces a higher level of satisfaction than a lesser inventory of goods would. As a result, although different levels of satisfaction produced by various products stocks can be seen and contrasted, their differences cannot be quantified precisely. Obviously, a rational consumer will choose the stock or combination of items that results in the highest level of satisfaction over those that result in the lowest level.

A logical buyer aims to get the most enjoyment out of the products he purchases. He typically faces combinations of numerous commodities and may have a number of options in this situation. To choose priorities, he would undoubtedly rank them according to the various degrees of satisfaction. The *scale of preferences* is a conceptual arrangement of various products and their

combinations in a predetermined order of preferences. To illustrate the point, let us refer to Table 13.1.

Table 13.1: Scale of Preferences

Combinations between Apples and Bananas	Level of Satisfaction Derived	Ranking-Order of Preference
(a) 12 Apples + 12 Bananas	Highest	I
(b) 10 Apples + 10 Bananas	Lesser than (a)	II
(c) 5 Apples + 5 Bananas	Lesser than (b)	III

Table 13.1 demonstrates that the consumer allocates a higher priority of choice to a larger stock of supplied products because a larger stock of those items gives him more satisfaction. The stock of 12 apples and 12 bananas, which yields the highest level of satisfaction, is given the first order of preference. The second order of preference is given to the combination of 10 apples and 10 bananas, and the third order of preference is given to the item that yields an even lower level of satisfaction.

Check your Progress

3. Explain the Hicksian concepts of scales of preference.
4. Give the meaning of utility.

13.6 THE MARSHALLIAN CONCEPT OF UTILITY

Consumers generally purchase goods and services so long as they yield some satisfaction to them. The ability of a good to fulfil a human need is referred to as utility. One man may go to see a movie while another may purchase a piece of cloth. Each derives pleasure or satisfaction in a particular way and behaves in the market accordingly. There is no reason or season except the benefit he receives from consuming different products and services. His actions in the market are only a manifestation of his utility or disutility of different goods in the market.

13.7 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Scale of preference means the rational arrangement of wants by the household as a consuming unit.

   In short, ordering of wants is called the scale of preference.
2. Consumption is the action of consumer for using a product for the satisfaction of a particular want.
3. According to Hicks, the concept of a consumer's preference scale should be compared to the degree of satisfaction gained from, in terms of ordinal utility of two goods in combination, in a ranking order.
4. Utility of product refers in its want-satisfying capacity. Marshall assumed cardinal or numerical measurement of utility.

13.8 SUMMARY

- A Household is consumer. Demand for a commodity is based on the behaviour of the households. Their desires determine the market demand.
- Scale of preference means the arrangement of wants and the relative preference of goods in accordance with the degree of intensity or urgency of different wants.
- Consumption is meant for the satisfaction of want.
- Consumption is the beginning as well as the end of economic activity.
- The demand pattern in the market determines the mode of production.

13.9 KEY TERMS

- **Household:** A consuming unit in economic sense.
- **Scale of Preference:** Rational arrangement of wants as per the priorities.
- **Utility:** Want satisfying capacity of a commodity.

13.10 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Trace the importance of households in the market economic analysis.
2. What is mean by consumption?

Long Answer Question

1. Explain the meaning of scale of preference with an illustration.

13.11 REFERENCES

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Chapter 14 The Investment Decision: Investment Alternatives for a Household

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Understand investment decision
- Know the investment alternatives for a household

Structure:

14.1 INTRODUCTION

Usually, household do not spend out for consumption and entertainment all their incomes which they earn. A part is always saved. In olden days, people used to buy golden ornaments for the saving purpose. It used to have three purposes: (*i*) wearing ornaments on social occasions, such as marriage ceremonies participation, (*ii*) giving dowry, and (*iii*) celebrating festivals like Diwali, Eid, Christmas, etc.

In modern times, people do not want to make show-off. So, they put money saved in bank's demand deposits, buying bonds, etc. and income-earning documents investing in shares. A household must save to invest and secure future. Frugality is a fair fortune.

Check Your Progress

1. Enlist the avenues for investing money by the household.

14.2 INVESTMENT ALTERNATIVES

In a modern economy, several avenues for the investments by the households are available to them. It is worthwhile to understand their use and economic significance on analytical counts. We may, briefly, indicate some major kinds of instruments available to the households for investing their savings while stating their pros and cons. Commonly perceived modes of putting saved money by the households are, to mention some: (*i*) Gold ornaments, (*ii*) Diamond, (*iii*) Gold bond, (*iv*) Bank deposit, (*v*) Corporate deposits, (*vi*) Bonds, (*vii*) Shares, (*viii*) Land plot and (*ix*) House.

14.2.1 Gold

Today, gold is not considered as much worth buying by common people, as gold prices are very high, which they cannot afford to pay. Nonetheless, women in India have liking for at least gold bangles, ring, nathani or earrings, in urban as well as rural areas. Gold coins are also available.

14.2.2 Diamonds

Diamonds are for ever, to the relatively rich and upper-middle class households. Diamond pendant lockets, diamond ring, diamond earrings, etc. are commonly purchased by those who can afford.

14.2.3 Bank Deposits

Commercial banks and cooperative banks facilitate deposit acceptance in their savings and fixed deposits accounts. Fixed deposits are remunerative secured investments as banks pay interests, rates, etc. depending on the period of deposits. Deposits are received from one year to five years or even a longer term. Deposits in the case of emergencies are withdrawable by the depositor-household by sacrificing the interest payment as per the rules.

14.2.4 Corporate Deposits

Big corporate companies, such as Tatas and Birlas, and even MNCs in same cases are permitted officially by the government to accept deposits from the public. Corporations usually pay higher rates on the deposits than the banks. People do have confidence in reported business firms. So, they may put some allocation of their savings with them in consideration of earning a better return. However, there is sometimes a danger of loosing money, when some business scoundrel may cheat them.

14.2.5 Bonds

A bond is a kind of debenture implying a written promise to pay money to holder of the bond issued by a company. Bonds imply a reasonably high return on value at the time of maturity. Government issued bonds, such as National Savings Bond, are safer investment made by the household.

14.2.6 Shares

Share is an instrument by which a business company raises its capital. Share implies a part of ownership. Shares claim a dividend as a part in distribution of profits made by the company.

14.2.7 Land Plot

It is immovable property. Land can be bought in urban or rural areas by those households possessing a high amount of surplus income which they fell not needed for a very long period of time. Mostly, land prices tend to accelerate with the increasing demand and prosperity in the areas under the process of increasing commercial activities. Thus, more demand for the offices to be established of expansion of horticulture in the rural areas or gradual semi-urbanisation. Rich farmers or Landlords-Jamindars buy agricultural land for cultivation purpose.

14.2.8 House

House, small or big, is a must for the householder. When person is finding enough savings accumulation, he will tend to move from rented house to an ownership home for the shelter. Some people being rich enough may invest their savings in buying a second house, thinking about gross appreciation of the property in the long run. Some people may be working in an urban sector, say in Mumbai, and may buy a home in his hometown, say in Pune to stay on vacation.

Check Your Progress

2. What is the major difference between the bank deposits and corporate deposits?

14.3 DESIRABLE ATTRIBUTES OF INVESTMENTS

- While deciding to invest their savings, households must always be careful in checking the risks involved.
- Often, it has been noticed by the agents while suggesting a plan or possibilities of alternative investments avenues, household customers are seen to be more fractious, whereas some business people or firm and even agents are vicious. There are same people like Harshad Mehta who damaged the prestigious image of Bombay Stock Exchange due to his unscrupulous move in the past in dealing with common shareholders.
- Households or investors should collect detailed information on the issues for arriving at a rational decision-making. Business-minded person showed be ceaselessly gathering information from front lines and interacting with the experts.

- Take minimum risks. Go for rational consideration. Don't just jump on the agents' advice as mostly he may be interested in getting commission from the organisations. In short, household has to be prudentially wise in seeking a good income-yielding investment of the savings.
- Information gathering allied investment proposals is the right order of household's budgetary and remunerative investment planning.

Check Your Progress

3. Define Bond.
4. What is meant by the share of a company?

14.4 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Avenues to investment for the households: (*a*) Gold coins, (*b*) Gold ornaments, (*c*) Gold bonds issued by banks, (*d*) Government Bonds, (*e*) Bank deposits, (*f*) Corporate deposits, (*g*) Company's bonds, (*h*) Shares, (*i*) Land plot and (*j*) Home.
2. Corporate fixed deposits offer higher interest rates than regular fixed deposits.
3. A bond is a kind of debenture – a written promise issued by a firm or the government.
4. A share is an instrument through which business capital is raised by the firms. It confers a partial ownership right.

14.5 SUMMARY

- Frugality is a virtue.
- Households save a part of their incomes and invest them on certain consideration.
- Gold and diamonds are usually purchased by the rich for social prestige.
- Money is put in banks for convenience of making cheque payments.
- Bank fixed deposits are yielding some cumulative interest payments on the basis of maturity period. Multinational companies, big finance companies and big industrial houses raise their capital by inviting fixed deposits from the public through offering a much higher interest rates in comparison of banks.
- Bond is a kind of debenture implying high returns on maturity. Government issued bonds are much safer in general.
- Shares implies a part of ownership in the company and entitled for dividend as a claim on profits.
- Land plots are purchased with an eye on appreciation of values with the passage of time.
- House is owned mostly for residential purpose.

14.6 KEY TERMS

- **Frugality:** Economy.
- **Gold:** Precious yellow metal.
- **Diamond:** Precious gem.
- **Fixed Deposit:** Deposit kept with bank for a given period of time.
- **Corporate Deposits:** Money invested with a business corporation on long-term basis bearing high returns.
- **Shares:** Instrument through which business capital is raised by the firms. It confers a partial ownership right.
- **Bonds:** A kind of debenture – a written promise issued by a firm or the government.
- **Land:** Immovable property.

14.7 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Why do people invest?
2. Enlist the major forms of investments available to the household.
3. Why do people buy a house?

Long Answer Questions

1. Discuss various avenues available for investing money saved by the households.
2. Make a comparative study of various forms of household investments.

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Unit 15 Labour Supply

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Indicate the characteristics
- State the characteristics of labour market
- Mention industry demand for labour
- Expose the supply of labour: backward bending supply curve

Structure:

15.1 INTRODUCTION

- Labour is a human resource.
- Labour means the productive service embodied in human – physical effort, skill, talent, mental, power, etc.

The compensation given to labour for its productive services is known as wages. The term wage also has a broad meaning because the term labour encompasses all types of workers, including independent contractors like teachers, doctors, and other professionals as well as skilled, unskilled, blue-collar, and white-collar workers. All forms of income earned by labour as a factor of production are included, including pay salary, emoluments, fee, commission, bonus, etc.

15.2 CHARACTERISTICS OF LABOUR MARKET

Wages are the cost of labour. Although the general theory of distribution explains how much each production ingredient is worth, economists in all eras have propounded a separate theory of wages. Since labour is a peculiar factor of production, the labour market tends to be quite different in characteristics than other factor markets.

1. Labour is a human resource. It is inseparable from the personality of the worker.
2. Labour has sociological characteristics which other factors do not have.
3. Labour, as a factor of production, requires public spendings for human capital, such as spending on public health, training, and education.
4. Labour is the only factor which is a producer of wealth as well as the consumer of what is being produced by it.
5. Population is the basic source of labour supply in a country. Again, age structure, i.e., division of people into working and non-working age groups, sex ratio and social conventions, as also the common desire to work are the important factors affecting the actual availability of labour.
6. A labourer may combine together in order to determine pay rates, trade unions often use collective bargaining. There is no such trade unionism in capital and land. Labour can refuse to work or go on strike.
7. Labour is classified into: (a) manual and (b) mental as well as: (i) skilled and (ii) unskilled. In each case, productivity differs. Here, the term productivity is used in the sense of the essentiality of the contribution of a particular type of labour in the industrial activity. Generally, skilled labour is relatively more productive and is also scarce; and therefore, found to be costlier than unskilled labour.
8. Labour is a perishable commodity. It is not storable or preservable. Hence, an individual worker has a weak bargaining power.
9. Unlike other factors, the supply curve of labour is a backward sloping one after a certain level of wages.
10. Labour market is never a perfect market. The imperfections in the labour market are:
    (i) Geographical, institutional and social immobility of labour.
    (ii) Existence of non-competing groups which divides labour into various categories leading to wage differentials.
    (iii) Trade union movement turning the labour market monopolistic.
    (iv) Employers' associations through which entrepreneurs unite as buyers of labour and create monopolistic situation in the market.

Check Your Progress

1. What are the characteristics of labour market?

15.3 INDUSTRY DEMAND FOR LABOUR

The industry's demand as a whole represents the market demand for labour. An industry is a collection of firms. Because marginal revenue productivity varies between firms, so do the demand curves for labour. We may determine the total demand curve indicating the industry's need for labour by adding the MRP curves of all the firms in a horizontal direction. As a result, the industry demand curve for labour also has a downward slope, meaning that the wage rate and the demand for labour have an inverse connection. Again, this would imply an inelastic demand for labour and would be steeper in the near term, but flatter in the long term.

Check Your Progress

2. State the determinants of labour supply.

15.4 SUPPLY OF LABOUR

The labour supply curve has an upward slope.

The supply of labour is a function of two factors, presuming a given productivity of workers: (i) The amount of workers who actually show up for work at various pay rates; and (ii) The number of hours per day or week they are willing to put in. In a market with perfect competition, the amount of labour available to a single company represents a tiny portion of the entire industry supply. The business can therefore hire as many labour as it wants at the going wage rate. As a result, the supply curve for labour to a firm is fully elastic, or at a given wage rate, a horizontal straight line. The curve has an increasing slope. Given that it is influenced by a variety of factors, it might be relatively elastic. The following are significant factors that affect how much labour of a specific type is available for a given industry:

1. **The Occupational Mobility:** A specific industry's labour supply will typically be more elastic if there is a significant degree of occupational mobility of labour among industries. This is because greater earnings will entice more workers from other industries to this industry. However, the following variables determine how much of an occupational change will occur:
   (i) Whether it is skilled or unskilled, the type of labour. Unskilled labour has a high degree of industry mobility. In the case of skilled labour, the degree to which employees possess or are likely to acquire the necessary skill and training, as well as their psychological aptitude for various tasks, determines the relative mobility.
   (ii) The relative significance of non-monetary benefits conferred by different occupations such as pleasantness of the jobs, job security, regularity of jobs, prestige, pensions, soundness of the firm, etc.
   (iii) The transfer fees associated with switching jobs. Mobility is hampered by a high cost of transfer.

(iv) Time frame. It takes time to shift. As a result, only the labour supply in a given occupation has been shown to be more elastic over time.

(v) Wage rate. Worker occupational shifts typically take place from low-paying jobs to high-paying ones. Consequently, a rise in wage rates tends to result in an increase in the labour supply for a given industry.

2. **The Work-Leisure Ratio:** The work-leisure ratio has a significant impact on the availability of labour in any occupation and on an economy as a whole. The variations in salary rates have a substantial impact on the work-leisure ratio as well. In reality, the influence of wage adjustments on the number of workers present for the job and the number of hours they are willing to work, per day or per week, affects the supply of labour in a specific industry. Two categories of analytical consequences of wage rate changes exist: (*i*) The effect of replacement and (*ii*) The effect of replacement. For example, an increase in pay may motivate a worker to put in longer hours at the expense of their free time. There is a favourable effect of substitution in favour of work. Due to the fact that more people will be available and willing to work more hours in the specific trade as earnings rise, the labour supply grows as wages rise. On the other hand, the typical mentality of the worker is that, as their wealth rises, they prefer leisure over labour. Workers will be encouraged to enjoy life more and work less as a result of wage rate hikes. They will therefore be willing to work fewer hours than before at great earnings. This is referred to as the income effect of wage rate increases. Because it encourages leisure over work, an increase in pay rate has a negative impact on income. Therefore, it is paradoxical that at high pay, the labour supply tends to decrease.

In short, the labour supply curve is typical. It tends to be a backward sloping curve as shown in Fig. 15.1.

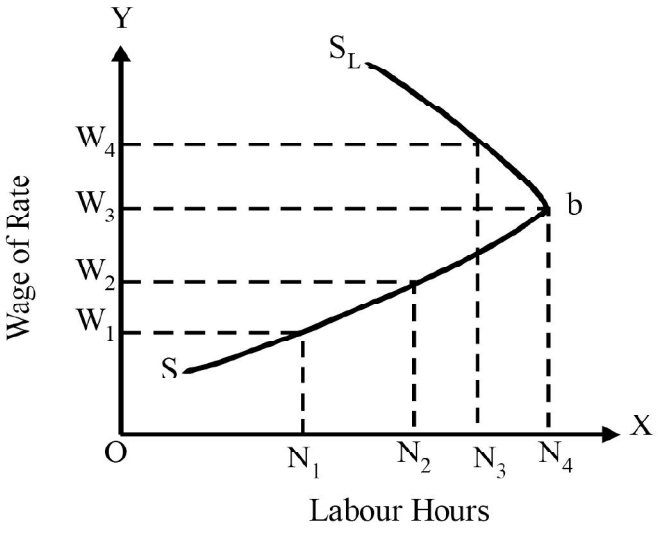

Fig. 15.1: Labour Supply Curve

In Fig. 15.1, SS_L is the backward sloping supply curve of labour. It bends backward at point *b*. It depicts that when wage rate increases from OW_1 to OW_2 and OW_3, the labour supply expands correspondingly from ON_1 to ON_2 and ON_3 level. But, a further rise in wage rate, say to OW_4, implies a reduction in the labour supply to ON_4 hours of work.

Check Your Progress

3. Explain the modes of Labour Supply Curve.

15.5 LABOUR FORCE PARTICIPATION

There is a modern trend started by some benevolent industrialists such as Tatas, Mahendra, Infosys, etc., whereby workers are made as partners in the organisation for rendering their services in order to honour their loyalty and sincerity in work. Such a move also inspires to work hard with sole dedication. Good employers providing better wages and perks to the workers for winning their confidence and loyalty towards the organisation. Even enlightened good trade unions also strive to raise the wages of the workers by raising their efficiency by conducting training programmes and providing free education to illiterate workers as well as to the children of all the member workers. When employees have better schemes of promotion and extra bonus system, labour would be inspired to work more efficiently in bringing the good results and fetching the appreciations from the superiors.

15.6 TAX POLICY AND LABOUR SUPPLY

Tax matters. Labour mobility in regions is greatly affected by that differences in taxation. In case of commodity taxation, say, if Gujarat has not levied any excise duty or sales tax on certain taxes, while in Maharashtra, these items have been taxed, then there will be price differentials in their respective markets and also in the case of localisation of industries. As such, workers may find say in Vapi or Surat or Baroda, there are zooming industrial activities in comparison to Palghar or Virar. So, workers may find more job opportunities there. Internationally, some countries are tax-heaven countries, meaning no income tax and nominal commodity tax. Say, Dubai, Mauritius and Malaysia or Thailand and Vietnam, for instance. Many Indians have been seeking jobs in such countries and settling thereby to obtain work permits.

15.7 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The main characteristics of labour market:
   (i) Labour is characteristically a human resource.
   (ii) It is inseparable from the personality of the worker.
   (iii) The supply of labour is subject to the fitness and willingness of the worker to work.

(iv) Labour welfare issues such as social securities: Provident Funds, Gratuities, Medical Relief, Pensions, Vacations, etc. have to be dealt with by the labour unions and the management negotiations.

(v) Supply labour comes from the middle segment of population pyramid. Children and elderly people in a welfare society are not supposed to be the parts of labour supply.

(vi) With the formation of Trade Unions, labour resort to collective bargaining in the determination of wage rates and other demands.

(vii) Labour implies the categories of: (*i*) Manual Labour, (*ii*) Mental Labour, (*iii*) Skilled Labour and (*iv*) Unskilled Labour.

(viii) Labour is a perishable commodity. A day lost without work is lost for ever.

(ix) Supply curve of labour is typically backward bending, since labour mostly favours leisure than work.

(x) Labour market is characterised as 'Bilateral Monopoly'. Monopoly in labour supply and monopsony in the demand for labour.

2. Major determinants of labour supply may be stated as under:

- **Wage rate:** The pay rate and the labour supply are directly related functionally. Workers would prefer to work in that firm or industry which offers a high level of money wages.
- **Elasticity of labour supply:** In relation to wage rates and workplace conditions, the availability of labour is an elastic phenomenon. Bossing attitude of managers in the supervision of work is never liked by the workers. Their friendly relations create a peaceful working environment.
- **Allied factors:** Allied factors such as job security, canteen facility, free tea served, prestige of the firm, better provisions of rest rooms, garden surroundings, etc.
- **Time period:** Morning shift, Evening shift, Night shift in employment privilege matters. Additionally, the labour supply is relatively inelastic in the short term. Over time, it becomes rather elastic.

3. Mode of Labour Supply Curve:

   It is a backward bending supply curve in a typical sense.

15.8 SUMMARY

- Wage is the remuneration of labour service.
- Money wages or nominal wages are wages paid in terms of money.
- Mobility of labour and the work-leisure ratio influence labour supply.
- The substitution effect and the income effect of a change in wage rate have an impact on the work-leisure ratio.

- Marginal Revenue Product of Labor = Marginal Wage = Average Revenue Product of Labour = Average Wage in a long-term completely competitive labour market.
- The amount of output that a unit of labour produces over the course of a specific unit period is how the production of labour is calculated.

15.9 KEY TERMS

- **Labour:** Human Resource in productive activity.
- **Labour Supply:** Availability of labour for employment in relation to the given wage rate.
- **Work-Leisure Ratio:** Presence of labour towards leisure against work, measured in terms of labour hours available and the wage rate.

15.10 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State the characteristics of labour market?
2. State the major determinants of labour supply.
3. Explain work-leisure ratio.

Long Answer Questions

1. Explain the peculiarities of labour as a factor of production and show their importance in the determination of wages.
2. Expose a labour supply curve diagrammatically.

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Chapter 16 Human Capital and Education

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Know the concept and significance of human capital
- Know the forms of human capital
- Understand the significance of human capital
- Trace the role of government
- Appreciate the relationship between education and human capital
- Examine the family welfare and National Population Policy consonance

Structure:

16.1 INTRODUCTORY: SIGNIFICANCE OF HUMAN CAPITAL

- The labour force used in production in related economic sectors like agriculture, mining, manufacturing, and services is known as human capital.
- Agriculture is the primary sector.
- Industry is regarded as the secondary sector embracing mining and manufacturing activity. Mining provides coal or fuel, besides zinc and other required raw materials as well as energy by extracting petrol and petroleum products.
- Industry also supplies various capital goods such as machineries, printing press, papers, pen and ink, computers, hardware, disc, TV sets, bricks, cement, iron and steel, automobiles, bicycles, etc. designed and devised by engineers and produced by entrepreneurs.
- Entrepreneurs are the kingpin of production activity.
- Marketing managers play the role of linking of the economic activity between the producers and traders to facilitate the exchange.
- Exchange suggests connection between the sellers and buyers of the products.
- Ultimate consumers exploit the utility of the product towards satisfaction of the particular wants.
- In this way, composition of human capital has its economic significance for the settlement and material welfare of the people in the society.
- Education creates its desired influence in developing the knowledgeable knowledge workers involved in productive activity.
- Education is the real kingpin in the formulation and moulds the knowledge workers. As such, modern economy is being conceived as the k-economy and philanthropic business-oriented educational institutions or the government-run educational institutions are meant to manage education system in imparting the desirable education and help the development of qualified human capital needed in the society.

Check Your Progress

1. State two significance of human capital.

16.2 FORMS OF HUMAN CAPITAL

Human capital comprises of two major forms:

1. Manual Labour and, 2. Educated Workers.

16.2.1 Manual Labour

Manual labour implies labour power used in the production process by working with hands. Labour, as such, is a perishable commodity. So, age of the workers and his health basically determines his working capacity.

Young worker is strong and can undertake heavy works like lifting heavy articles from one place to another, running machineries, driving lorries, white washing, laundry services, etc. Old persons can also do the similar jobs, but will be little less efficient. However, on humanitarian ground, they are being kept till the age of seniority upto 60 or 65 as per the rule.

In municipal corporations, for instance, sweepers are employed for doing scavenging of streets and roads. Such is a manual labour, restaurants employ waiters as waitresses and cooks.

It has been noticed that self-employed labour like white-washer, when work for a 10-15 days and earn some sufficient money income, will disappear from the unorganised market for taking complete rest or dwelling at home with the family.

- Usually, uneducated people while earning through using their manual capacity, most of them are believing in the philosophy of live today and eat today, by spending the daily earning, and seeing who knows about tomorrow whether he will be alive or not. Their life philosophy is also based on their religion's tenets and teachings.
- Elderly/old people when retired from jobs rarely think of finding alternative job opportunities, in common.
- Human Resource is the basic resource for the business enterprise in action and production. Labour supply is sourced out form the employment of people in the production activity.
- Even in a fully automated factory or industry, say to so, its generations has to be conducted by the experienced and educated workers.
- There is working need for foremen as well as supervisors.
- A foreman on the assembly line may be supervising around 40-50 people. While, managers in automated plant at the most three to four persons are constituted their teams. They may be qualified engineers plus degree holders like MBAs. They function with greater autonomy and responsibility.
- The managerial team fetch trust of the management boards or superior bosses – CEOs of the firm and command a wide decision-making power.
- Indeed, owing to their high pay packets and perks, managers are the most costlier human resource to the firm in corporate sector.

- For the excellence of managerial codes, education and experience both matters much in their working practice and achievement of the firm's objective laudably. It largely depends on how well the business firm is managed by them by managing workers and the work operations.
- Even profit-service organisations/institutions, though being non-business or non-profit-making entity do need management services no less than commercial firms. On the contrary, they may need more on account of their non-exclusion characteristic of consumption.
- Education and constant candid learning from experiences are greatly rewarding in the development of human resource in a knowledge-based economy.
- By and large, decentralisation is the best principle to be followed by an organisation wherever it is possible to perform.
- In the course of businesses, managers may have to act like entrepreneurs and resort to building and managing innovative organisations.
- Effective managers make the firm more productive.
- Managers should not run for profit maximisation, but sufficient profit in order to cover up the risks involved in business and avoid loss making.
- Knowledge workers in the economy are claiming commanding position.
- Human resource is a specific resource of the society. Hence, human relations in an organisation must be utterly recognised. As such, personnel management is a crucial aspect in the organisation – concerning profoundly with work, working and workers. In this regard, industrial psychology needs to be well-understood by the manager. It should also be realised that work is 'living,' as an economic component of the society.

Check Your Progress

2. What is manual labour?

16.3 ESSENTIAL COMPONENTS OF HUMAN CAPITAL DEVELOPMENT

Prof. Mahbub UI Haq asserts that the concept of developing human capital resources consists of four key elements. These are what they are:

1. **Equity:** It implies that the people should have equitable access to opportunities from the government. This is required to help folks expand their options. By taking actions like these, it is possible to ensure that everyone has equitable access to opportunities:
   (i) The implementation of the measures for land reform,
   (ii) Through a progressive tax system,
   (iii) Providing credit at a lower rate to the less fortunate members of society,

(iv) By establishing an international franchise system, and

(v) Securing the political and economic rights of women.

2. **Sustainability:** Sharing of developmental possibilities between the current generation and the following one is necessary for opportunities to be sustainable. Reducing the disparities in lifestyles that occur within and between countries is another aspect of sustainability.
3. **Productivity:** Productivity may be raised by investing in human capital. This necessitates spending on workforce training, health care, and education. The lessons learned by nations like Japan and South Korea support the notion that high economic growth rates are correlated with investments in human capital. A research by the World Bank of 192 nations further supports this connection. According to this study, natural capital, which accounted for 20% of economic growth, natural capital, which accounted for 16% of economic growth, and human and social capital, which accounted for 64% of economic growth.
4. **Empowerment:** It makes sure that people have more social, political, and economic options. Decentralisation of power, political democracy, and economic liberalism are necessary for empowering the populace. To ensure that the people are empowered, power sharing must follow a bottom-up strategy.

16.4 IMPORTANCE OF HUMAN CAPITAL DEVELOPMENT

1. **Improves productivity:** The process of human development involves investment in education, health and family welfare. This helps in developing qualitatively better labour force.
2. **Better utilisation of resources:** Development of human resources helps in better utilisattion of natural and capital resources. The process of human development improves physical and mental capability of the workers. It forms a link between the natural and capital resources.
3. **Controls population growth:** Human progress reduces the number of families by slowing down human reproduction. International experiences show that investment in education [especially of girls], lower birth rates are a result of improved health and lower infant mortality rates. Increase in literacy rate encourages people to adopt birth control measures. As fewer child fatalities are anticipated, a decrease in newborn mortality rates lessens the incentive to have large families.
4. **Safeguards physical environment:** Human development minimises environmental degradation. It creates awareness about the importance of safeguarding the physical environment.
5. **Improves the quality of life:** Investment in education, health and family welfare results in the improvement of the quality of life.

6. **Encourages research and development:** The process of human development involves Government investment in research and development. This is necessary to develop trained and competent labor force within the country.
7. **Higher returns:** Investment in human capital provides long-lasting returns to a country. The additional investment in capital would result in depreciation, but the additional investment in human capital always results in higher returns due to improvement in productivity and efficiency of the workforce.

Check Your Progress

3. Trace the importance of Human Capital Development.

16.5 HUMAN CAPITAL AND EDUCATION

The importance of education as a key element of human capital in a knowledge-based economy is widely acknowledged. Education plays an important role in accelerating economic growth, population control, improving life expectancy.

16.5.1 Government Role

The efforts of the Government in promoting human development through education can be studied under the following heads:

1. **The Goal of the Government's Education Policy:** The goal of the Government's education policy has been the following:
   (i) To ensure universal education,
   (ii) Free and compulsory education up to Standard V,
   (iii) Vocationalisation of education, and
   (iv) Focus on educating women, people from underrepresented groups, and people of colour.
2. **Planned Expenditure:** The total expenditure on education in a country is perceived in terms of government expenditure as a per cent of the GDP. During the planning era in India, the plan's education spending had rapidly expanded since the First Five-Year.
3. **Education as a Fundamental Right:** The Government passed the Ninety-third Amendment of the Constitution (November 2001) to designate as a Fundamental Right the right of children between the ages of 6 and 14 to free and compulsory education. The provision of educational opportunities for children becomes one of the parents' or guardian's Fundamental Duties as a result.
4. **Government Schemes:** The Government has launched several schemes to provide access to education to the economically weaker sections of the society and for improving the social infrastructure of education, such as

Sarva Shiksha Abhiyan (SSA), Teacher Education, District Primary Education Programme (DPEP), Operation Blackboard, etc.

5. **The National Literacy Mission (NLM):** The National Literacy Mission (NLM) was set up in 1988. The objective had been to impart functional literacy to the illiterates in the age group of 15-35 years.
6. **National Programme for Education of Girls at Elementary Level:** This programme aimed to provide support for education of the underprivileged girls at the elementary level.
7. **Kasturba Gandhi Balika Vidyalaya:** This programme aimed to provide girls from SC, ST, and OBC with elementary-level residential schools.
8. **Scheme for Universalisation of Access to Secondary Education (SUCCESS):** The government made the decision to introduce a centrally supported programme for improving secondary education and ensuring universal access to it.

16.5.2 Achievements Likely in the Field of Education

1. **Improvement in Gross Enrolment Ratio:** The country's primary and upper primary Gross Enrolment Ratio (GER) has greatly increased over the years. Economic Survey, 2007-08, mentioned: the GER had risen for the secondary level, to around 40 per cent in 2004-05.
2. **Impressive Growth in Field of Higher Education:** Higher education and collegiate studies are crucial to the process of human growth. The higher education system comprises both general and technical education. As on 2005-06, there were 350 universities. and expansion of technical education in the country.
3. **Increase in Literacy Rate:** Between 1951 and 2001, India's literacy rate rose from 18.33 percent to 65 percent. The growth rate of literacy during 1991-2001 was higher in case of females as compared to males.

16.5.3 Shortcomings in the Field of Education

1. **Lower Enrolment of Girls and High Dropout Rate:** Both in basic school and upper primary school, there were fewer girls enrolled.
2. **Worsening of the Pupil-Teacher Ratio:** The Pupil-Teacher Ration has worsened at the primary education level from 1:24 (on an average for every 24 pupils, there was 1 teacher) in 1950-51 to about 1:43 (on an average for every 43 pupils, there was 1 teacher) in 2001-02.
3. **Inadequate Infrastructure:** The Sixth All India Educational Survey from 1993 found that 70% of schools lacked toilets, 56% of schools lacked access to potable drinking water, and 35% of schools lacked a permanent structure.
4. **Differences in Literacy Rate:** There exists geographical, regional and gender-wise disparities in literacy rate. In 2001, the literacy rate in urban areas was 80.30%, compared to 59.40% in rural areas.

5. **Lack of Social Relevance:** Present educational system lacks social relevance. The quality of the education imparted remains poor. Our education system is marks-oriented and not knowledge-oriented.
6. **Educated Unemployment:** Despite significant expansion in higher education, educated unemployment remains a bane of the country. Indeed, our education system assures degrees but not jobs.

16.6 HUMAN CAPITAL RESOURCE DEVELOPMENT THROUGH HEALTH

A healthy worker is an efficient worker. According to **the World Development Report, 1993**, there are four ways that better health fosters economic growth.

(i) A healthy worker helps in increasing production.

(ii) Unused natural resources can be put to use if diseases can be brought under control.

(iii) Improvement in the health status among children increases their enrolment in the schools.

(iv) Financial resources can be used for productive purposes.

16.6.1 Government Efforts

The efforts of the Government in promoting human development through health can be studied with the help of the following points:

1. **National Rural Health Mission (NRHM):** It attempts to give the poor access to efficient, inexpensive, and primary healthcare facilities. To reduce the service gap for rural healthcare, the Government has created an Associated Social Health Activists (ASHA). NRHM expects to provide one ASHA per 1000 population in all 18 high-focus States and in tribal areas.
2. **Strengthening of Primary Health Infrastructure and Improving Service Delivery:** In order to provide access to healthcare in both urban and rural areas, India has invested heavily in its health care system during the past 50 years. Major health issues are being addressed by national programmes that have been put in place.
3. **Universal Immunisation Programme:** Under this programme, vaccines are given to infants and pregnant women against preventable diseases.
4. **Polio Programme:** The programme aims at complete eradication of polio from India. There is coverage for kids up to age 5.
5. **National Vector-borne Disease Control Programme:** It is a comprehensive programme for the defence against diseases spread by insects.
6. **National AIDS Control Programme:** The programme aims at reducing the spread of HIV infection in India.

7. **National Leprosy Eradication Programme:** The general health care system and the services are fully integrated.
8. **Integrated Disease Surveillance Project:** The project was launched in November 2004 with the help of the World Bank. The aim of the project is better surveillance of the spread of diseases and appropriate action.

16.6.2 Achievement of Health Care in India

1. **Improvement in Health Care Infrastructure:** The number of hospitals has increased from around 24,000 in 1991 to around 28,000 in 2005.
2. **Control of Diseases:** Epidemics like malaria, cholera and TB has been brought under control. For instance, the number of reported malaria cases has declined from 6.4 million in 1976 to 1.2 million in 2006.
3. **Decline in Death Rate:** With improvement in health care facilities, epidemics have been brought under control. Death rate has reduced from 25.1 per 1000 population in 1951 to 7.5 per 1000 population in 2006.
4. **Increase in Life Expectancy:** A key metric of human advancement is life expectancy. In 1951, the average life expectancy at birth was 32.1 years; in 2001, it was 65 years. Presently, it is assumed to be around 70 years of age.

16.6.3 Limitations of Health Care in India

1. **High Incidence of Major Diseases:** Although a reasonable success has been achieved in controlling epidemics like malaria, TB, etc., the incidence of these diseases continues to high in Bihar, UP, West Bengal, Chhattisgarh and Jharkhand.
2. **Inadequate Water Supply and Sanitation:** Until February 2002, about 17,000 villages did not have safe drinking water and sanitation facilities.
3. **Low Per Capita Calorie Intake:** The nutritional status on an average is unsatisfactory. The per capita calorie intake in India in 1992 was 2,395 as compared with 2,889 for the world data.
4. **Poor Quality of Health Services:** Despite vast improvement in medical care infrastructure, the quality of health services continues to remain poor. The Government hospitals are generally overcrowded and lack basic amenities.
5. **Low Consciousness of Health Care:** This is clear from the fact that less than 2 per cent of the population is covered by medical insurance.

16.7 FAMILY WELFARE AND DEVELOPMENT THROUGH CAPITAL RESOURCE

Family welfare and the level of human development are closely related. The success of family welfare programme depends on factors like improved literacy rate, female education, socio-economic status of women and the standard of living.

16.7.1 Components of Family Welfare

1. **Family Planning:** Family planning is considered as an important component of the family welfare. The World Development Report, 1984 listed the following benefits of family planning:
   (i) It helps in stabilising the population growth rate.
   (ii) It improves the health of mother and children.
   (iii) It helps in developing responsible parenthood.
   (iv) Family planning empowers the women to widen her choices.
   (v) It helps the poor to plan their family size in a better way.
2. **Public Information Programme:** Public information programme is necessary to create awareness about the benefits of family planning to the couples in the reproductive age. The Government makes use of the mass media to publicise.
3. **Incentives and Disincentives:** The Government provides cash incentives to couples who accept sterilisation. During the Emergency, sterilisation was made compulsory. Government may give preference in Government jobs to those who adopt small family norm.
4. **Family Planning Centres:** Family planning centres play an important role in family planning programme. These centres are necessary to implement the family planning programmes. Further, there is a need to strengthen the network of contraceptive distribution centres in the urban and rural areas.
5. **Research:** Research plays main role in improving the quality of family planning programme. Government has focused its attention in this.
6. **The National Population Policy, 2000:** The National Population Policy, 2000 (NPP 2000) reaffirms the government's commitment to encouraging free, informed consent from the public when using reproductive health care services as well as the continued use of a target-free approach to family planning services administration.

16.7.2 Achievements of Family Welfare Programmes in India

1. The birth rate has declined from 40.8 in 1951 to 23.8 in 2005.
2. The infant mortality rate per 1000 live births has declined from 146 in 1951 to 58 in 2005.

16.7.3 Reasons for Failures of Family Welfare Programme in India

1. **Narrow Focus on Contraception:** The family welfare programmes in India is based on the philosophy that population growth can be brought under control by increasing the supply of contraceptives and popularising their use. Research on fertility suggests that sole reliance on contraceptive cannot bring down fertility.
2. **Neglect of Women's Education and Health:** Another major criticism of India's family welfare programme it has neglected women's education

and health. Only 54 per cent of India's female population is literate. Nearly 50 to 90 per cent of pregnant women suffer from anaemia.

3. **Regional Differences:** There exist widespread regional differences in the success attained in terms of various parameters of family welfare programmes. Kerala has achieved tremendous success in lowering the birth rate, infant mortality rate and total fertility rate.
4. **Birth Rate Continues to be High:** The birth rate still continues to be very high at 23.8 in 2005. High birth rate remains a challenge to the country. The family welfare programme the success achieved has been marginal.

16.8 NATIONAL POPULATION POLICY, 2000

The National Population Policy, 2000 (NPP 2000) reaffirms the government's commitment to encouraging free, informed consent from the public when using reproductive health care services as well as the continued use of a target-free approach to family planning services administration. The NPP 2000 provides a policy framework for advancing objectives and prioritising measures over the course of the following ten years in order to meet the demands of India's population in terms of reproductive and child health and to reach net replacement levels (TFR) by 2010. It is based on the requirement that government, business, and the voluntary non-government sector collaborate in order to increase outreach and coverage of a comprehensive package of reproductive and child health services while simultaneously addressing issues of child survival, maternal health, and contraception.

The **immediate objective** of the NPP 2000 is to provide integrated service delivery for essential reproductive and child health care while addressing unmet needs for contraception, healthcare facilities, and manpower.

The **medium-term objective** is to aggressively execute inter-sectoral operational methods to raise the TFR to replacement levels by 2010.

The **long-term objective** is to reach a stable population by 2045, at a level compatible with social progress, environmental conservation, and sustainable economic growth.

16.8.1 Goals to be Achieved

1. Address the unmet demands for fundamental infrastructure, commodities, and services related to reproductive and children's health.
2. Reduce the percentage of boys and girls who drop out of primary and secondary school to under 20% by making education up to the age of 14 free and mandatory.
3. To 30 or less per 1000 live births, lower the infant mortality rate.
4. The percentage of maternal deaths should be decreased to under 100 per 100,000 live births.

5. Ensure that all children be immunised against all diseases that can be prevented by vaccines.
6. Encourage girls to wait until they are at least 18 years old, ideally until they are at least 20, before getting married.

16.9 CONCLUDING REMARKS

- Education is conceived as an investment in human capital. Human capital containing educated people is boon to a developing country.
- India Skills Report (2019) mentioned that over 50% of the technically skilled labour produced by the All India Council for Technical Education (AICTE)-supervised Indian Higher Technical Education System lacked employability.
- Education should promote learning through experience and right way of thinking.
- Human capital's success motivated mantra is: Hard Work and Lot of Work.
- The value of investment on Human Capital Resource Development is judged by its pursuance to motivate them to be service-oriented and be the pillars of the welfare-prone economic society.
- The country, owing its supremacy in IT and education sectors, should specifically increase its presence in global services by strengthening its human capital.
- Education, essentially, higher education breeds intellectual capital. Intellectual capital, thus, may be designed or the mind power resource designed by the knowledge technology and information.
- A firm's intellectual capital has three variants:
    1. **Human capital** refers to the associates and team members – their talents and activity.
    2. **Structural capital** refers to the database, systems, intranets, files, technology and explicit knowledge tools.
    3. **Social capital** refers to the consumers as well as customers of the firm's products.
- Effectiveness of the people in the production process is more important than their mere efficiency metrics in determining the competitive advantage of the company.
- The government is inclined to choose a carefully crafted and calibrated approach towards human capital resource development synchronised with a praiseworthy educational system providing excellence in the field of education in the country. In order to solve a myriad of socio-economic problem faced by the country at large, the government has rightly and hopefully opted for high capex to fuel fast growth.

- The All India Council for Technical Education (AICTE) intends to introduce the model curriculum adhered to the National Education Policy (NEP) 2020, in complying to meet the present-day requirements of modernity and updating with keeping in mind the changing industry demands and dynamics through revamping of the existing AICTE curriculum that has been long overdue.

Check Your Progress

4. Define intellectual capital.

16.10 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Human capital refers to the applications of manpower in a productive activity in the economic sectors: agriculture, manufacturing and service.
2. Manual labour refers to labour power in a productive activity.
3. Importance of Human Capital Development signifies:
   (i) Productivity improvement
   (ii) Better resource utilisation
   (iii) Check on population growth
   (iv) Environmental safeguard awareness
   (v) Focus on family warfare
   (vi) Industrial and agricultural development
   (vii) Attitudinal change
   (viii) Long-lasting returns
4. Intellectual capital is the mind power couched with accumulated knowledge.

16.11 SUMMARY

- Human capital essentially implies the manpower.
- Education is the pillar of knowledge-oriented economy.
- Work done with hand suggests use of the manual labour.
- Results accrued through scientific research is the outcome of mind power.
- Education is the determinant of knowledge-based economy.
- "Human development is a process of widening people's choices as well as raising the level of well-being achieved".
- Human development is important because:
  (i) Improves productivity
  (ii) Better utilisation of resources
  (iii) Controls population growth
  (iv) Safeguards physical environment

(v) Improves the quality of life

(vi) Encourages research and development

(vii) Development of agriculture of industry

(viii) Change in attitude

(ix) Higher returns

- The Government has taken several steps to promote human development through education, health and family welfare. The National Population Policy, 2000 (NPP 2000) reaffirmed the government's commitment to allowing residents to make freely informed decisions and give their consent when using reproductive health services. It also continued to use a target-free approach while providing family planning services.

16.12 KEY TERMS

- **Human Capital:** Manpower.
- **Education:** Social activity to impart teaching, mental and moral teaching.

16.13 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State with reasons whether the following statements are True or False:
   (a) Human development and economic development are correlated.
   (b) The Government has taken several measures to promote human development through education.
   (c) India's health care system is besieged by several problems.
   (d) One reason for the failure of family welfare programme is its focus on contraception.

Long Answer Questions

1. What do you understand by human development? Why are its essential components?
2. Explain the efforts of the Government to promote human development through education.

16.14 REFERENCES

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Chapter 17 Savings Concept and Determinant Factors

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Provide an understanding of the meaning of saving and propensity to save
- Indicate the determinants of saving
- Study the Keynesian concept of paradox thrift

Structure:

17.1 THE CONCEPT OF SAVINGS

Saving indicates an excess of money. A disparity in accounting between current income and current consumption may be used to describe it. Keynes defined savings as a surplus of income over consumption expenditures.

Savings in the context of an individual is the portion of income that is not used by him. And in the case of the community, the total of the unconsumed portion of the community, the total of the unconsumed portion of all community members' national income symbolises saving. Symbolically,

$$S = Y - C$$

where S represents saving, Y represents income, and C represents consumption.

This symbolic expression of saving that applies to both the individual and the community.

Keynes claimed that saving is a function of income, hence $S = f\,.\,(Y)$. In other words, if income rises, saving rises as well, and *vice versa*. The inclination to save, which is derived from the propensity to consume, is what determines how much you will save.

Thus, propensity to save $\left(\frac{S}{Y}\right)$ is equal to one *minus* the propensity to consume $\left(\frac{C}{Y}\right)$. Symbolically, therefore:

$$\left(\frac{S}{Y}\right) = 1 - \left(\frac{C}{Y}\right)$$

Keynes claimed that the consumption function—also known as the inclination to consume—is a short-term, steady function of income. This implies that the ability to save, also known as the inclination to save, would be a stable function of income. Although the tendency to save is a stable function of income, saving (individually or collectively) is an increasing function. Thus, the marginal propensity to save $\left(\frac{\Delta S}{\Delta Y}\right)$ is always greater than zero, but less than unity. Symbolically,

$$1 > \left(\frac{\Delta S}{\Delta Y}\right) > 0$$

The total of household, business, and government savings is referred to as aggregate domestic savings.

1. Savings by a household are equal to disposable personal income minus consumption costs.
2. Savings by businesses are calculated as Profits (or Gross revenue) − (Dividends + Business taxes).
3. Public revenue minus current expenditure equals the government's savings.

17.1.1 Personal Savings

Personal savings, often known as individual savings, refer to the savings of households. Individuals' savings, according to Professor Irwin Fisher, are "the gap between their current income and current spending, the latter of which includes personal tax payment as well as consumption expenditures." There are savers and dissavers, which must be taken into account when calculating each person's total savings. Young people tend to save, while older people tend to dissave. All personal savings are made in large part with the intention of liquidation in the future. Savings are liquidated in the future because people save with the intention of having assets to use after retirement or to support their dependents financially in the case of their passing. Total personal savings minus total dissavings equals net individual savings of the community.

Check Your Progress

1. Define savings.
2. What is meant by the propensity to save?

17.2 DETERMINANTS OF SAVINGS

Savings rates and amounts in an economy depend on a number of variables, including:

1. **The Level of Income:** Keynes emphasises that income mostly determines how much you can save. With income comes more saving. The magnitude of income and savings can rarely be proportionally related, but empirical data has shown that there is a strong association between the two. The amount of personal savings, however, mostly depends on the available income. As a result, the saving to income ratio $\left(\frac{S}{Y}\right)$ with an increase in income, ceases to rise. The marginal inclination to save has been noted $\left(\frac{\Delta S}{\Delta Y}\right)$ is frequently high in the community's high-income group sectors. Indeed, the saving-to-income ratio is high in developed nations with high per capita incomes.
2. **Income Distribution:** The community's wealth and income distribution has an impact on the overall savings rate. Because the wealthier segment of the community has a higher inclination to save, the aggregate savings rate would likely to be higher if there was a greater degree of income inequality among the population. A low savings rate would be expected in a nation with a low per capita income and an equitable distribution of national wealth.
3. **Consumption Motivations:** The remainder of money after consumption is what goes toward saving. We must therefore understand what factors determine consumption in order to understand the elements affecting saving. Numerous causes and reasons influence the community's consumption. According to Duesenberry, the size and consumption pattern are influenced by: (i) certain things must be consumed in order to satisfy both biological and social demands, (ii) a wide range of qualitatively various types of items can alternately satisfy these wants; and (iii) The qualitative differences and ranking of these various products contribute to the formation of the community's scale of choice.
4. **Wealth:** A person's ability to hold wealth or liquid assets has an impact on his consumption choices. If a person has a sufficient amount of liquid assets, such as cash balances, bank deposits, etc., and feels that his future is safe, he or she will spend more of their current income and save less. Similar to this, a rise in the value of financial assets would encourage someone to spend less and save more.

5. **Habit:** A key factor in determining consumption patterns is habit. In actuality, a consumer already has a set of established consumption patterns at any given time. Taste, preferences, fashion, and other psychological effects on customers' minds help shape their purchase habits. By virtue of his habit, a person who is a spendthrift will save a less percentage of a given salary than someone who views saving as a virtue. Thus, the types of behaviours that people generally adopt determine the aggregate saving in an economy.
6. **Population:** High population growth has a negative impact on per capita income, which has a negative impact on the saving-to-income ratio.
7. **Objective and Institutional Factors:** There are a number of objective factors — mostly institutional by nature — which affect the capacity and willingness to save of the people at large. Political stability and security of life and property encourage people to save more. Similarly, the existence of a good banking system and other developed financial institutions of money and capital market such as Unit Trust, Life Insurance Corporation, financial houses, shares of good corporations, government bonds and securities, etc. induce people to save more under the economics of interest-earning motive by providing a wide range of remunerative investment opportunities. While hyperinflation may cause people to stop saving, price stability or governmental efforts to control inflation might support saving.
8. **Subjective Motivations for Savings:** When there are compelling subjective reasons for saving, people are encouraged to save more. Keynes encouraged people to save for the reasons indicated below:
   - (i) Precaution — to accumulate a reserve for unanticipated events.
   - (ii) Foresight — to prepare for upcoming demands.
   - (iii) Calculation — to benefit from interest and increased actual consumption in the future.
   - (iv) Improvement — to gradually raise the standard of living.
   - (v) Independence — to feel independent and have the ability to take action thanks to collected savings.
   - (vi) Enterprise — to engage in economic endeavours or speculative activities.
   - (vii) Pride — to leave a large sum of money.
   - (viii) Avarice — to fulfil purely miserly desires.

   Similarly, the following factors influence business company savings:
   - (i) Enterprise — to make additional capital investments.
   - (ii) Liquidity — to handle business emergencies
   - (iii) Improvement — to increase corporate investment.
   - (iv) Prudence — to discharge debts with financial caution.

9. **Rate of Interest:** Savings is a direct result of interest rates, say traditional economists. In symbolic language:

$$S = f(i)$$

where S represents saving and I represents the interest rate. According to this, saving tends to rise when interest rates rise and *vice versa*. Keynes disagreed with this position. For him, saving depends on money.

Check Your Progress

3. Indicate the determinants of savings.
4. Enlist the subjective motives for savings.

17.3 SAVING: A VIRTUE OR A VICE?

Saving was viewed as a virtue by classical economics, as was the act of saving.

Keynes, however, contends that saving is not a public virtue but a private one. Saving is a personal virtue because it is a response to everyone's innate fear of future insecurity and uncertainty. As a result, everyone saves as a precaution to protect against unforeseen events. Keynes thought on the topic of saving from a macro perspective and viewed it as a public vice, notwithstanding the possibility that it could be a private virtue. He stated that it is apparent that the aggregate demand for consumption items will decline as the community's total saving rises as a result of widespread consumption restraint.

Check Your Progress

5. Is savings a virtue or a vice?

17.4 THE PARADOX OF THRIFT

When producers who were also consumers reduced their current consumption by spending some of their time to building some capital equipment, such as the manufacturing of an axe by a woodcutter, saving automatically equaled investment in a primitive society. However, in contemporary society, the savers and the producers are two distinct groups of people: households and businesses, respectively. As a result, intended saving cannot always equal intended investment. Therefore, all forces released from the consumer goods sector are not absorbed in the capital goods sector if expected saving exceeds intended investment. That implies that some factors won't be used. Resources that go unused represent neither a meaningful save nor a waste from the perspective of the community. Real income consequently declines to the point when projected saving from prior income simply equals investment. Savings are a direct result of income, thus if income declines, savings also must decline. Additionally, as consumption decreases along with income, entrepreneurs notice a loss in the marginal efficiency of capital and reduce their investment even further. In this manner, a rise in total saving relative to investment eventually results in a decrease in saving. The paradox of thrift is this.

Check Your Progress

6. What is meant by the Paradox of Thrift?

17.5 ANSWERS TO 'CHECK YOUR PROGRESS'

1. An excess of income over consumption expenditures is what is referred to as savings.
2. Propensity to save corresponds to the propensity to consume. It is measured as one *minus* the propensity to consume. Thus:

$$\left(\frac{S}{Y}\right) = 1 - \left(\frac{C}{Y}\right)$$

where, S = Savings, C = Consumption and Y = Income.

3. The main factors that affect saving in a modern economy are as follows:
   - Level of income
   - Consumption motivations
   - Habit
   - Institutional factors
   - Rate of interest
   - Distribution of income
   - Wealth
   - Population
   - Subjective motivations
4. Savings behaviour is motivated by:
   - Precaution
   - Calculation
   - Independence
   - Pride
   - Enterprise
   - Improvement
   - Foresight
   - Improvement
   - Enterprise
   - Avarice (Miserliness)
   - Liquidity
   - Prudence
5. - Saving is regarded as a virtue by the classicists.
   - To Keynes, saving is a private virtue but a public vice.
6. Concept of the Paradox of Thrift was exposed by J.M. Keynes, stating: Additional saving turns into a vice rather than a virtue if it is not accompanied by additional investments in society. An economic recession results from it.

17.6 SUMMARY

- Savings may be defined as an excess of income over the spending the income earned.
- Propensity to save is a tendency of the household to save.
- Total personal savings minus total dissavings equals net individual saving for the community.

- Major determinants of savings are: (*i*) Income level and distribution, (*ii*) Consumption motivations, (*iii*) Wealth, (*iv*) Population number, (*v*) Habit, (*vi*) Family's total income and the number of the family members and their consumption needs, (*vii*) Subjective motivations and (*viii*) Rate of interest.
- Savings motives: precaution, foresight, calculation, pride, enterprising, liquidity, improvement, prudence, future considerations, future spending requirements such as marriage, festival, etc.
- Saving money is a personal virtue but a social evil.
- Saving essentially means economic surplus.
- According to traditional economics, interest rate directly affects savings.
- According to Keynes, saving is a result of income.
- Major determinants of savings are income, wealth, habit, population, subjective motivation and rate of interest.

17.7 KEY TERMS

- **Saving:** Economic surplus.
- **Personal Savings:** Household's savings.
- **Paradox of Thrift:** Saving is private virtue but a public vice.

17.8 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Give Keynes's definition of savings.
2. State Fisher's definition of personal savings.

Long Answer Questions

1. Expose the subjective motivations mentioned by Keynes regarding individual savings.
2. Discuss the major determinants of savings.

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Chapter 18 Financing, Controlling and Managing Firms

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Learn the meaning of firm as an economic term
- Understand the modes of different types of firms
- Study controlling and managing of firms
- Examine some candid comments regarding realities pertaining to management of the firms in modern times

Structure:

18.1 INTRODUCTION

- The firm is a business conducting unit confined to producing and marketing activity.
- The firm's business operations in the present days have designed new economic order (NEO) in a market-oriented economy.
- Many big firms due to their business expansion crossing beyond the country's national boundaries have been recognised as the transnational firm.
- Managerial functions in a business firm are largely confined to financing, controlling and managing activity.

18.2 THE FIRM'S LEGAL FORM

A firm's financing action and capacity mostly relates to its legal formation.

In a country, such as India, a firm may be established as per the legal status, in the following forms:

(i) Sole/Individual Proprietorship

(ii) Family Business Enterprise/SMEs

(iii) Corporation

(iv) Public Enterprise/Government-owned Enterprise

18.2.1 Sole or Individual Proprietorship

It is a privately owned firm by a person as his own and may be registered with municipal and other governmental authorities for obtaining license for carrying the business, electricity power, payment of taxes, etc. Small shopkeepers such as in grocery business are belonging to this category. In this case, the owner himself uses his savings and invest in his own business, or may borrow from friends, family member or from a cooperative society. Even many resort to a commercial bank, if he is a literate person having some social/political contacts suggesting a solid influence in providing guarantee for obtaining the bank loan by proving his capacity of repayment of the same.

18.2.2 Family Business Enterprise (FBE)

It comes into existence, when some family members join together in conducting a business. In this case, the quantum of money finance available for investment tend to be larger than in the case of sole proprietorship. FBE is a more convenient and workable kind of the business firm operating as Small and Medium Enterprise (SME), in engrossed in some industrial activity, such as a printing press, toys manufacturing, small departmental store or furniture making (e.g., Akbarallys in Mumbai.) In service sector also, there is a great scope for the establishment of SMEs. For example, a Chartered Accountant office may be run by the qualified members of a family.

- SMEs may obtain contract manufacturing of parts needed by a big firm.
- Small entrepreneurial companies should seek out niche areas to occupy that are overlooked or ignored by the big firms.
- To a small and/or startup company, benefits of the production of, say, assembling parts and spare parts for a big automobile company in the tied business relationship are legion.
- Michael Dell pointed out that outsourcing of same jobs by the big firms to some specialised small firms may lead to a better control and lower costs for the big enterprises in their operations, since will be required only fewer things to manage.
- The relationship between SMEs and large business firms is one of mutual gains in many ways, such as, for instance:

(i) Increased cost economy translating into higher profit for both sectors;

(ii) Reduced response time;

(iii) Greater specialisation;

(iv) Strong customer orientation against the market environment of competitiveness;

(v) Improvement in the bottomline of the big organisation by reducing costs through outsourcing;

(vi) Upgrading technology and skills;

(viii) Delivering higher utility value in products and services;

(ix) Generating profits for the individuals; and

(x) Adding value to the society.[1]

18.2.3 Corporation

- A corporation refers to the large business company, such as 'Chrysler Corporation'.
- Corporation is an organisation or a group of organisation that is recognised by law as a single unit.
- Corporations referring to companies are only entitled to raise the capital by issuing shares registering in stock exchange. The shareholder is nationally conferred the right to ownership – party to the extent of the amount of the given company shares being possessed. When the company makes profits, it is distributed among the shareholders in proportion to the amount of shares held on their face value in the primary share market, *i.e.*, when issued initially first time for raising the required capital in the company.
- Shares fetch dividends as a profit share of the good company.
- Shares being a negotiable instrument are transferable. Hence, there develops a secondary market for transactions of dealing in share.
- In its secondary market, the shares are bought and sold at high or low prices depending on the act of speculation of the people involved in the stock exchange market. As such, share prices go on fluctuating from time to time.
- When the bulk of shares' supply of a particular company exceed the demand, assumed by the speculator, share prices tend to fall. Conversely, it tends to rise.
- Well-known company's shares are always very attractive as against a new or less-reputed company's shares in the secondary market.
- Speculation pertains to the flood of high-price shares of the company which are declaring high dividend margins on their profits.

[1] See Kao, R.W.Y. (1997): *An Entrepreneurial Approach to Corporate Management*, Prentice-Hall, New York.

- Credit goes to fund managers attached to the stock exchange activity by the firms. However, the firm's business reputation is inclined to the production manager for quality consideration and to the marketing manager for sales expansion and zeal for the firm's reputation in the markets.
- Share of a company are subject to speculative activity of Bulls and Bears. Bulls are interested in sending prices up of the shares. Bears consider share prices to move down in the stock exchange speculation.

18.2.4 Public Sector Enterprise (PSE)

- It is government-owned concern.
- It is operated by the public officials, i.e., government servants.
- PSEs are controlled by the Commerce and Industry Ministers as per the governmental norms.
- During Indira Gandhi's regime, public sectors were more powerful in the teworking and direction of the economy.
- Rajiv Gandhi's Ministry introduced the process of liberalisation that was further carried on by Dr. Manmohan Singh.
- Modi Government intensified the private sector's role further extensively that has hopefully brought Indian economy more booming and becoming more competitive being regarded as the third biggest dynamic economy next to the USA and China.

Check Your Progress

1. What is meant by sole proprietorship?
2. What is a family business enterprise?
3. Indicate the main characteristics of corporation.

18.3 MANAGEMENT CONTROL

- In the course of business, in order to achieve certain strategic goals, the firm needs to device plan policies, procedures and practices in an effective manner.
- In-house or internal control is essential in this regard, thus, for designing a system toward the creation of responsibility centres and rewards-based performance evaluation for the good results and to punishing those who are utterly careless in their jobs. A successful system will motivate users and achieve goal congruence.
- Managerial excursion refers to the leadership styles of the management as well as that of managers involved in execution process relating to production and relationships with the subordinate as well as marketers, and also judging the consumer behaviour.

- A company has to carry on three primary functions: (*i*) Production, (*ii*) Finance and (*iii*) Marketing.
- Marketing essentially has to be more cost-conscious and result-oriented in augmentation of sales.
- Managerial decisions have also to confine in determination how the managers themselves are able to pursue the firm's objectives which they think more beneficial in the company's as well as customers' interest.
- Managerial effectiveness is implied by the extent of degree in which the manager may achieve the productivity or output on the managerial counts.
- Firms in any business set-up should always budge for driving for excellence regarding the quality and purity of its products traded into the domestic as well as international markets in seeking lucrative business.
- Digital learning has virtually came up as the innovative lifeline for educational institution in the present days in the momentum of teaching and engaging student community.
- Large-scale manufacturing efficiencies, the learning or experience curve, and corporate strategy, beside the continues improvement of employee through education and training tend to be an effective course of action towards improvement of productivity in an organisation.
- Scale of output essentially provides a competitive advantage through lower costs, without jeopardizing the quality, by turning out larger quantity of the product. Firms could realise economies in costs and productivity factors with the increase in their size. Efficiency implies low-cost-cum-highest productivity in the production activity.
- In a competitive context, the firm can claim an increasing market share at the expense of rivals, by adopting price-cuts in order to take advantage of price elastic demand of the given product.
- Productivity refers to an out came depending on how well an organisation converts its resource inputs into profit-yielding outputs in the market. Productivity of labour is measured in terms of labour hours used divided by units of production.
- The function of a significant positive link between a firm's growth rate and its productivity growth is how economies of growth are quantified.

18.4 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Sole proprietorship refers to a firm owned and operated by a single individual person.
2. A few family members come together and start a business enterprise.
3. Corporation is a legally formed and registered business organisation. Its main features are:
   - It is legal entity.
   - It can raise its capital by issuing shares.

- It is managed by the qualified managers having at least MBA degree academically.
- It is a permanent business organisation.
- Its shares are being transacted in the Stock Exchange.
- Share market is subject to speculative activity of sellers and buyers termed as Bulls and Bears.

18.6 SUMMARY

- A firm is a business conducting unit.
- A sole trading concern or individual proprietorship firm is the single owner of the business.
- Family Business is the business owned and operated by the family.
- SMEs usually help the big Firms BY providing assembling parts.
- Big firms are benefiting in a big way by associating with related SMEs.
- Outsourcing of sub-parts or process-sections by big firms to specialised SMEs help in reducing their costs of production.
- Corporation means a large business company.
- Shares of a company are negotiable instruments.
- Shares are subject to speculation in the dealings in stock exchange.
- Bullish tending towards share implies its prices to rise.
- Bulls expect share prices to fall.
- Managers should keenly pursue their activity towards controlling and managing the firms in achieving their esteemed objectives.

18.7 KEY TERMS

- **Firm:** Business conducting unit.
- **Sole Trading Concern:** Business owned and operated by a single person.
- **Family Business:** Business owned and run by the family members.
- **Corporation:** Legally formed and registered company.
- **Public Enterprise:** Government-owned and managed business enterprise in providing public goods demanded by the society.

18.8 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a note on Sole Proprietorship.
2. Write a note on Family Business.
3. What is meant by a Corporate Firm?

Long Answer Questions

1. State and explain the major forms of the business firm.
2. Analyse overall business considerations in the Indian economy.

18.9 REFERENCES

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Chapter 19 Corporate Finance: Introductory

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Indicate corporate goals of a firm
- Expose corporate-level strategy
- Look at some management issues
- Form and strategic ideas towards the new economic order
- Suggest EVA as a means to performance evaluation

Structure:

19.1 INTRODUCTION

Management strategies are significant for the business success in an economy in modern times. In American, for instance, over 1,100 US companies reported to have been diversified and decentralised. As such, corporate finance tends to be very significant in the modern business environment in any economy. So, India is not an exception in this case.

19.2 CORPORATE GOALS

Modern capitalism implying free-enterprise system has its consonance towards development of a successful business in an economy.

Corporate firm's performance and growth is measured in terms of:

- Return on Investment (ROI)
- Revenue Growth (RG)
- Market Share (MS)
- Cash Flows (CF)

The efficiency of a firm in the corporate sector is viewed with comparisons among the companies in the given industry. However, it is not easy to fetch high returns on investment in industrial sector of the present days being highly investment intensive.

To protect their market shares, firms have to keep low prices which tends to be a less profitable avenue. Indeed, some business' and the firms' operations when combining market leadership through product innovation and effective advertising and promotional efforts may earn sufficient profit margins and reinvest the money earned for further growth and expansion of their business. Economic power could be captured through a wider business coverage secured by the firm.

19.3 CORPORATE-LEVEL STRATEGY

A firm may choose to use its cash accumulation from business to buy back its own shares. The repurchase of shares is effectively a tax-free dividend for the company in action. Michael Porter stated the following competitive strategies for the firm:

- Sell differentiated products in the market.
- Give a focus on a market niche.
- Turn out to be a low-cost producer.

19.4 SOME MANAGEMENT ISSUES

The business managers will face and have to deal with several issues and problems, such as:

- Size of the business organisation and running its operations have to be managed from time to time.
- Elimination of obsolete products and coping with changing fashions by giving new products.
- Adopting decentralisation in the functional form of management such as marketing, finance, engineering, design, etc.
- Dealing with foreign rivalry on the international market.
- Regarding laws and regulations of the government.

Check Your Progress

1. How can we measure a corporate firm's performance and growth?
2. Indicate major management issue.

19.5 STRATEGIES TOWARDS THE NEW ECONOMIC ORDER

- Brand building market strategy has to be envisaged. Make a search on internet to know and gather new ideas.
- Adopt new technologies.
- Have a large focus on R&D.
- Be strong to face and fight with volatility of markets due to changing situations caused by the people's preferences and attitude.
- The managers should detect problems and identify new emerging opportunities and make rational choices.
- The CEO of the company must clearly define the authentic relationships conducting business.
- The business has to be conducted on profitable terms.

19.6 SOME MEASURES

The manager shared the work out of the asset turnover rate, also known as the profit on sales and sales-to-asset ratio, is as follows:

$$\frac{\text{Profit}}{\text{Assets}} = \left(\frac{\text{Profit}}{\text{Sales}}\right)\left(\frac{\text{Sales}}{\text{Assets}}\right)$$

The extent of competition in the industry affects the profit as a percentage of sales (Profit ÷ Sales) per cent. Productivity highly matters. When the firm's size expands, scale economies are realised.

19.7 ECONOMIES OF SCOPE

The term "economies of scope" is frequently used in business terminology considerably differently than the term "economies of scale." When a company produces two or more products collaboratively rather than independently, the unit cost per product is reduced. In other words, a multi-product company frequently experiences economies of scope that cut costs. When a company produces two goods simultaneously in the same production facilities as opposed to separately, economies of scope are possible. The economy with lower costs or costs reflects this. Thus:

$$TC(Q_x, Q_y) < TC(Q_x, 0) + TC(0, Q_y)$$

where, TC = Total cost, Q_x = Output quantity of product X and Q_y = Output quantity of product Y. For instance, it might be more cost-effective or economically advantageous for Phillips to make TV sets and DVD players at a single assembly

plant rather than two separate, less intensively used sites. By minimising factor input duplication in some respects under a joint operation as opposed to separate operations, the economy of scope is thereby realised. In a nutshell, the multi-product cost function is responsible for economies of scope. The cost of simultaneously producing a specific quantity of two or more products is known as the multiproduct cost function of a corporation.

19.7.1 Empirical Illustration: Economies of Scope

A firm's total cost function is:

$TC = 200 - Q_x Q_y + Q_x^2 + Q_y^2$

where Q_x and Q_y represent the number of units of product x and y respectively.

Question: Do economies of scope exist, when the firm produces 2 units of x and 4 units of y?

Solution:

$TC(Q_x, Q_y) < TC(Q_x, 0) + TC(0, Q_y)$

$TC(Q_x, Q_y) = 200 - (2)(4) + (2)^2 + (4)^2$

$= 200 - 8 + 4 + 16 = 212$

$TC(Q_x, 0) = 200 - Q_x(0) + Q_x^2 + (0)^2$

$= 200 + Q_x^2 = 200 + (2)^2 = 204$

$TC(0, Q_y) = 200 - (0)Q_y + (0)^2 + (Q_y)^2$

$= 200 + Q_y^2 = 200 + (4)^2 = 216$

Since:

$(212) < (204 + 216)$

It follows that economies of scope exist in this case.

- It must be noted that the productivity of a firm's workforce is a decisive factor in determination of its business competitiveness. Labour economy plays its pivotal in this situation.
- Economic value added (EVA) is the significant measure for performance evaluation. EVA is the real key to creating wealth.
- Many firms are involved in a continuous strategic process relating to acquisitions and devastations.
- The CEO is mostly responsible for tackling all financial, legal and regulatory policies. The CEO, in fact, represents the corporation to the public, besides, investors, customers suppliers as well as employees.
- The relative business strength of most of the firms may vary usually between medium to low.
- It is always better to dispose off the loss-making firms rather than lingering on. Any way, the basic purpose of a company is to earn a profit greater than its cost of capital. The manager should also seek to trace new

insights for opportunities and prosperity of business of the corporate sector.[1]

Check Your Progress

3. What is meant by economics of scope to a businessman?

19.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Corporate firm's performance and growth is measure through ratios such as:
   (i) Return on Investment
   (ii) Revenue Growth
   (iii) Market Share
   (iv) Cash Flows
2. Major management issues are relating to:
   (i) Size of the firm
   (ii) Elimination of obsolete products
   (iii) Decentralisation
   (iv) Counteracting to foreign competition in the global markets
   (v) Dealing with government rules and regulations.
3. Economics of scope refers to lowering of production costs enjoyed by the multi-product firm.

19.9 SUMMARY

- A corporate firm's performance is measured through:
  (a) Return on investment,
  (b) Revenue growth,
  (c) Market share, and
  (d) Cash flows.
- A company should sell differentiated products in the market for claiming competitive advantage through:
  (a) Elimination of obsolete products,
  (b) Brand building of the product, and
  (c) Conduct business on profitable terms.
- *PAR* (Profit Asset Ratio) = $\left(\frac{P}{A}\right) = \left(\frac{P}{S}\right) \cdot \left(\frac{S}{A}\right)$

  where, P = Profit, A = Assets and S = Sales

1. This write up heavily draws on the discussion embodied in the book: Celley, J.L. Jr., L. D. Jacqueline and R.D. Hardiec (2002), *Corporate Strategy*, Mc-Graw Hill Companies, New York.

19.10 KEY TERMS

- **ROI:** Return on Investment
- **PAR:** Profit Asset Ratio (PAR)
- **PSR:** Profit Sales Ratio (PSR)
- **SAR:** Sales Asset Ratio (SAR)

19.11 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State the corporate objectives.
2. Mention the competitive strategies for the firm as suggested by Porter.
3. State major management issues.

Long Answer Questions

1. Expose strategies towards the new economic order.
2. How will you determine the performance evaluation of the firms?

19.12 REFERENCES

1. Mankiw, N.G. (2002), *Principles of Economics*, Thomson, New York.
2. Pindyck, R.S., and D.L. Rubinfed (1995), *Microeconomics*, Prentice-Hall, New Jersey.
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Chapter 20 Production and Laws

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Define production
- Understand the economic concept of production function
- Examine the laws of production: the returns to scale in short and long-run

Structure:

20.1 INTRODUCTION

Production entails the provision of commodities, or the goods and services that are produced. Production, in a technical sense, is the process through which resources are transformed across time and/or space into commodities. Simply described, production is the process of translating an input into an output. A company technically performs the act of production. Production is a concept of flow. It is calculated as an output rate per unit of time. Producing utilities like form, place, time, and service is what is meant by the term "production." Form utility is created under manufacturing of products. Place and time utilities are created in marketing and trading. Service utility implies in rendering various services such as teaching, acting, acting, etc.

20.2 THE CONCEPT OF PRODUCTION FUNCTION

The amount of inputs consumed per unit of time directly affects a commodity's output rate. The production function is the technological-physical connection between inputs and outputs. Production function, albeit primarily an engineering concept, is frequently applied in business economics to investigate production behaviour. "The production function is the name given to the relationship between rates of input of productive services and the rate of output of product. It is the economist's summary of technical knowledge" (Stigler, 1966).

Definition: A production function is the functional relationship between the physical rates of input and output of a firm per unit of time, given the available technology.

The concept of production function is a summarised description of technological possibilities.

20.2.1 Attributes of Production Function

1. **Flow concept:** A flow idea is a function of production. It has to do with the input and output flows of a commodity over a given period of time. Time is considered to be a functional or operational unit in this context.
2. **Physical concept:** The technical link between inputs and outputs known as a "production function" is described in physical terms rather than in terms of a monetary unit like the rupee or the dollar.
3. **State of technology and inputs:** It suggests that a company's output is based on the status of its technology and inputs. The understanding of the means and procedures for generating commodities and services is collectively referred to as technology. It is the society's understanding of

the agricultural and industrial arts. It comprises organisational strategies and production procedures. Anything utilised by the company during the production process is referred to as an input.

- **Inputs:** Due to the fact that their combined productive services result in the creation of a particular commodity, (a, b, c, d,..., n) are complementary in nature.
- **Some inputs are substitutes to one another:** As a result, if factors a and b may be substituted for one another, a may be increased in place of b. As a result, whereas b is variable overall, an is stable. Although components like labour and capital may not be completely interchangeable in practise, there may be a high degree of substitutability.
- **Some inputs may be specific:** Since they are least interchangeable, highly specialised factors are of particular use.

4. **Factor combination for the maximum output:** The rational corporation, from an economic perspective, is not interested in all of the various output levels that could be comparable to the different combinations of factor inputs, but only that combination which yields maximum output.
5. **Short-run and long-run production function:** Depending on the functional time period under consideration, factors may be fixed or variable. There are short-term and long-term functioning requirements. Therefore, we have two production functions: short-run and long-run. The supplied production size is relevant to the short-run production function. Changing production scale is a long-run function of production.

Check Your Progress

1. Define production.
2. What is production function?

20.3 TIME ELEMENT AND PRODUCTION FUNCTIONS

Short-run and long-run time periods affect the functional relationship between changes in input and the ensuing changes in output. The temporal period being evaluated in this context is the functional or operational one.

20.3.1 The Short-run

The definition of "short-run" is a time frame during which some production factors' inputs cannot be changed. Fixed factors are those that cannot be changed in the short term. Therefore, certain factors are constant and some are flexible in the short term by definition. Plant, machinery, and equipment are examples of capital components that are often fixed in the short term. Land, the management, or the administrative team might also be considered fixed factors. As a result, in the near term, the output is produced at a given scale of production, meaning that the size of the plant or company stays the same. Once more, short-run production indicates that the firm has a limited range of options due to the inelastic nature of fixed

factors. As a result, in the short-run period, output can only be changed by altering the inputs' fixed factors and variable components together.

20.3.2 Short-run Production Function

By definition, the production function in the short term comprises both fixed and variable input components. Over the brief period, at least one key component is fixed. Algebraically, thus, short-run production function may be stated as under:

$Q, = f\,(a/p^0, c^0, ..., n^0, T)$

where the slash (/) distinguishes between fixed and variable components Fixed factors are indicated by the subscript 0 at the top. As a result, a, b, and c are amounts of fixed factors. Of course, technology ($\overline{T}$) remains unchanged.

20.3.3 The Long-run

A period of time long enough to allow fluctuations in the inputs of all components of production used by a corporation is referred to as the "long-run." In other words, the lengthy period is a length of time during which all variables are subject to change. Because all factors eventually become variables, there is no longer a difference between fixed and variable factors. In the long-run, factor adjustments are simple to implement. On the long-run, a plant's size, which is often fixed in the near term, can change. As a result, changing the production scale only makes sense over the long term.

20.3.4 Long-run Production Function

In the long-run, the firm's operations are based on the shifting output scale, and its overall size is altered. Thus, long-run production can be stated as under:

$Q = f\,(a, b, c, ..., n, T)$

Given that all factors are identified as changeable production components, it is obvious that there is no duality of inputs over the long term. However, for analytical convenience, *T,* the state of technology, is held constant.

There is no fixity or uniformity in the duration of the short-run or the long-run period. The duration varies from industry to industry.

Check Your Progress

3. Define long-run as a time period.
4. State long-run production function.

20.4 COBB-DOUGLAS PRODUCTION FUNCTION

To determine the actual relationships between changes in physical inputs and the ensuing output, C.W. Cobb and P.H. Douglas conducted statistical research into a few manufacturing businesses in America and other nations. A generalised version of production function with two variable inputs, namely labour and capital, emerged from their studies, has been evolved which is as follows:

$Q = a[L^b K^{1-b}]$

When Q is the output quantity, L and K are the amounts of labour and capital, respectively, and a and b are constants that are all positive.

20.5 LAWS OF PRODUCTION

The conversion of all inputs into outputs is a component of the production process. When studying the production function, we look at different input/output combinations that result in varied output quantities under diverse technical circumstances.

20.5.1 Laws of Production under Short-run

- **The Law of Diminishing Marginal Returns:** One or more factors can be held constant while other factors are changed to produce output. This is the conventional production function that has dominated economists' thinking for well over 200 years. This kind of production function, which was first described by British classical economists such Thomas Robert Malthus, David Ricardo, and John Stuart Mill, is the foundation of the law of declining marginal returns. Alfred Marshall's hands worked to hone and elaborate it.
- **The Law of Variable Proportions:** Another kind of production function keeps all other factors fixed while only one variable factor is present. This kind of production function, often known as the law of changing proportions, was described by Prof. Benham. This is seen as the application of the law of declining marginal returns in the modern era.

20.5.2 Laws of Production under Long-run

- **The Law of Returns to Scale:** Another sort of production function allows for different output quantities to be produced by varying the quantity of each input in the combination of inputs. The law of returns to scale is what is meant by this. The rule of returns to scale is connected to the long-term production process since it is impossible to modify the scale of operations quickly.

20.6 THE LAW OF DIMINISHING MARGINAL RETURNS (DMR)

The concept of diminishing marginal returns was originally explained by the ancient economics with relation to agriculture. The land was analysed as other parameters were enhanced while remaining constant. There was no proportional rise in output. Every farmer knows that increasing labour and capital on a specific piece of land will not result in doubling the productivity of that land. If this is possible, all the foodgrains required for the entire world population could have been produced only on one piece of land by increasing the variable factors. As this is not possible on a given piece of land, additional land is brought under the plough. Marshall stated this law as follows: “An increase in capital and labour applied in the cultivation of land causes in general a less than proportionate increase in the

amount of produce raised, unless it happens to coincide with an improvement in the arts of agriculture."

When additional units of capital and labour are invested during the earliest phases of cultivating a specific plot of land, the additional output may be greater than proportionate, maybe as a result of undercultivation of the land. However, beyond a certain point, when the land is farmed with some additional investment, the additional yield will be insufficient under any normal circumstances unless some advancements are made in the cultivation methods or techniques.

The law is not exclusive to land alone, even though it was initially explained in relation to land and agriculture. Along with agriculture, it can be used in all production sectors, including business, mining, fishing, building, etc.

20.7 THE LAW OF VARIABLE PROPORTIONS

This is the law of diminishing marginal profits in the modern era. This law makes the assumption that only one production element is variable and the rest are fixed. The output of the variable factor may expand more than proportionally in the early stages of production while we maintain the other elements at their current levels, but it will eventually stop increasing proportionately. Prof. Benham states the law as follows:

"As the proportion of one factor in a combination of factors is increased, after a point, the average and marginal product of that factor will diminish."

The following circumstances give rise to the law:

- All other factors should be consistent, whereas just one factor varies.
- The production facility's or the firm's size efficiency's output volume remains constant.
- The production method remains the same.
- The units of the variable factor input are all homogeneous, meaning they all have the same traits and efficiency levels.

In such cases, the Law of Varying Factor Proportion or the Law of Non-proportional Output describes the physical link between input (variable factor proportions) and output. According to the law of non-proportional output, in the near term, the returns variable factors will be more than proportionate initially, and after a point, returns will be less than proportionate. This is what the law describes about the behaviour in total output resulting from increased application of variable factors to fixed factors. We may adopt the following measurements of product:

- **Total Product (TP):** Total product is the sum of all the units of output produced per unit of time by all the factor inputs. However, in the near term, an increase in the variable factor input results in a clear increase in the overall output. Thus, where *TP* stands for total produce and *QVF* for the quantity of the variable factor, $TP = f(QVF)$.
- **Average Product (AP):** The total product divided by the specified variable factor is referred to as the average product. As a result, the

average product is obtained by dividing the total product by the quantity of the variable element. Symbolically:

$$AP = \frac{TP}{QVP}$$

If 25 people are engaged and a commodity's daily total output is 400 units, then:

AP = 400/25 = 16 units per worker.

- **Marginal Product (MP):** The addition realised in the total product is officially known as the marginal product since it involves the addition of a unit to a variable factor, all other elements being maintained constant. In formalised terms, the marginal product may be defined thus: ($MP_n = TP_n - TP_{n-1}$) where, MP_n when n units of a variable factor are used, stands for the marginal product. TP stands for total production, and n for the quantity of the variable factor used ($n = QVF$).

  If there are only 25 workers employed, the twenty-sixth worker's marginal product is calculated as: Let's say that when there are 26 workers working, the total product rises to 440 units from 400 units:

  $MP = TP_{26} - TP_{25}$ = 440 – 400 = 40 units.

  The marginal product can be defined as the rate of measuring the change in the total product in proportion to a change in the employment of the variable factor on a unit-by-unit basis. Thus, in mathematical terms:

$$MP = \frac{\Delta TP}{\Delta QVP}$$

  This ratio is, in fact, termed as 'incremental product.'

  In graphical terms, in terms of calculus, however, the marginal product is defined as $MP = \Delta TP/\Delta QVF$, where Δ = a unit change measured by the derivative of the related variable.

Statement: When units of a variable factor are increased in the production function in order to increase the total product, the total product initially may rise at an increasing rate, but after a point, it tends to increase at a decreasing rate because the marginal product of the variable factor decreases as time goes on, under the given state of technology and other conditions remaining unchanged.

To illustrate the working of this law, let us take a hypothetical production schedule of a firm as given in Table 20.1.

Table 20.1: Production Schedule

Units of Variable Input (Labour) (n)	Total Product (TP)	Average Product (AP)	Marginal Product (MP) (TP_n)	($TP_n - TP_{n-1}$)
1	20	20	20	
2	50	25	30	Stage I
3	90	30	40	
4	120	30	30	
5	135	27	15	
6	144	24	9	Stage II
7	147	21	3	
8	148	18.5	1	
9	148	16.4	0	
10	145	14.5	–3	Stage III

It is assumed that the amount of fixed factors, land and capital, is given and held constant throughout. To this, labour — the variable factor — is added unit-wise in order to increase the production of commodity X. The rate of technology remains unchanged. The input-output relationship is, thus, observed in Table 20.1.

From Table 20.1, we may note the following interesting points:

- The marginal product column makes the law of decreasing returns clear. The variable input's (labour) marginal product first increases. As the marginal product increases, so does the total product. Also increasing is average product. Analytically, this is referred to as the stage of growing returns (Stage I).
- The marginal product starts to fall after a certain point (in our example, when the fourth unit of labour is hired). As a result, the rate of growth of the whole product slows down. The time of declining rewards is now (Stage II).
- The marginal product is equal to the average product when the average product is at its maximum. In our example, the average product and marginal product are both 30 when the fourth labour unit is employed.
- The marginal product eventually drops to zero and then turns negative as it continues to increase (Stage III).
- The total product is at its highest point when the marginal product falls to zero. In our illustration, 148 is the highest amount of total product. When the marginal product is zero, 9 units of labour are employed. Additionally, the total product starts to drop in the same proportion when the marginal product turns negative. Despite the fact that at this point the average product is declining, it remains positive upto a certain point.

These points would be more explicit when the given production schedule is plotted graphically. We represent a graphic illustration of the product curves and

the law of diminishing returns in its generalised form, as in Fig. 20.1, so that smooth curves are drawn.

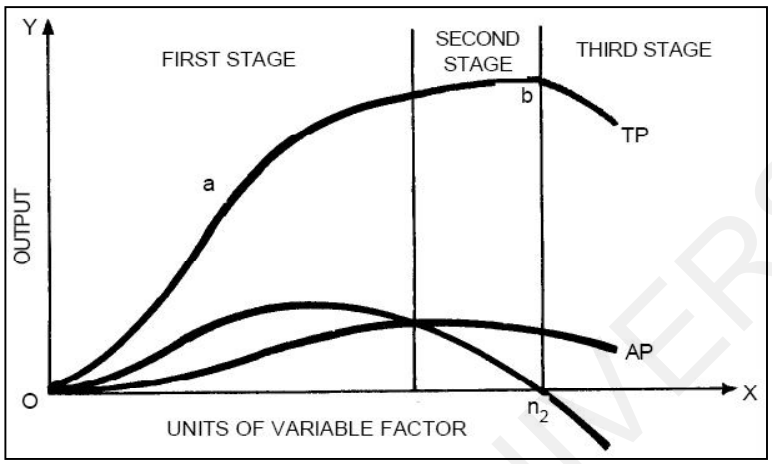

Fig. 20.1: The Product Curves

In Fig. 20.1, The units of a variable factor used are measured along the X-axis, and the output is measured along the Y-axis. The total produce curve (*TP*) shows a similar information about the behaviour or total output as in the production schedule in Table 20.1. The total product curve has an upward slope up to point *b*, and then it moves downward. However, the slope of *TP* curve changes at each point. The curve (*TP*), however, becomes steeper up to point n_2. After this point, *TP* curve's slope becomes negative.

Evidently, *TP* moves through three stages: (*i*) the first stage of increase in the rate of total output; (*ii*) the second stage of a decrease in the increase in the rate of total output and (*iii*) the third stage of decline in total output. These three stages are basically confined to the behaviour of the marginal product. The marginal product is rising, diminishing, and eventually, it becomes negative. Hence, the marginal product curve *MP* has an 'upside down' U shape. That means the *MP* curve is rising upward upto a point and then it falls downward. The creation of the *MP* curve is influenced by the rate at which the TP curve's slope changes. Point b on the *TP* curve is where the *MP* curve intersects at point n_2 on the X-axis, indicating that when $MP = 0$, *TP* is at its highest. Once more, the *TP* curve's decreasing section is proportional to the *MP* curve's negative portion.

20.7.1 Explanation of the Stages

Two essential traits of the components of production are responsible for the law of diminishing returns' three-stage operation:

(i) the indivisibility of some constant factors, and

(ii) factor substitutability is imperfect.

Indivisibility of fixed factors suggests that there is initially some disproportionality between the two sets of factor components when a lower number of variable factor inputs are used along with a particular set of factors. Therefore, the fixed factors are not very successfully utilised from a technical standpoint. For instance, when just a very small number of units of a variable input like labour are

applied, a factor like machinery will be drastically underutilised due to its lumpiness.

20.7.2 Increasing Returns

A mix of fixed and variable components tends to be closer to the ideal when the use of variable inputs is increased. Therefore, the output tends to be more proportional to the rise in the variable factor units when the short-run production function is optimised. This phenomenon is also attributable to certain internal economies such as managerial and technical economies as the productive services of indivisible factors like manager and equipment will operate more effectively when more variable inputs, like as labour and raw materials, are utilised. Briefly said, the phase of rising marginal product of the variable factor is due to the greater inefficiency in the use of certain divisible fixed factors when larger units of the variable factors are combined with them.

20.7.3 Diminishing Returns

The reason for diminishing returns is not far to seek.As fixed factors cannot be modified in the short term, the company aims to boost output by using an increasing number of units of variable factors, thereby trying to substitute fixed factors by variable factors. But due to imperfect substitutability of factors, when the fixed factor is overutilised, there emerge internal diseconomies, and the diminishing returns (decrease in marginal product) follow. Because a fixed amount of factor is mixed with increasing amounts of variable factor, the marginal product falls. Consequently, the factor inputs are not distributed fairly in the crucial factor causing diminishing returns. Indeed, the nature of the production function determines the exact course of output behaviour in the short-run. If the fixed factors involved are of very big size and indivisible, on technical grounds, being unadaptable to the factors with a small amount of variable input, the marginal product of the variable input will initially rise sharply, and it will decline also very fast soon after the required units of variable factors are employed for their efficient use.

20.7.4 Negative Returns

Stage III is the stage of negative returns, which occurs when the input of a variable factor in the production function is significantly excessive compared to the fixed components. For instance, an excessive use of chemical fertilisers on a farm may eventually spoil the farm output. Similarly, say, overstaffing of salesmen in a departmental store may create a situation that may hamper each other while attending to the customers. Hence, the sales may tend to decline. In such a case, sales could be increased effectively just by reducing the number of salesmen in the shop.

20.7.5 Assumptions of the Law of DMR

The following two circumstances prevent the application of the law of diminishing returns:

(i) A certain technology is employed throughout the whole production process and is unaltered. Whatever adjustment is made to the ratio of factor inputs is within the capabilities of the techniques and approaches that are now in use.

(ii) The law makes the perfect homogeneity of the units of various factor inputs a given. Every unit of a factor input is interchangeable with every other factor input in the production function due to its identical efficiency.

20.7.6 Significance of the Law

The law of non-proportional output has clear economic implications. Businessmen might use it to plan their micro-scale, short-term production. A careful producer will not move into the third stage of negative returns. Rationally, the maximum average product and the highest cost combination of elements represent the best percentage of factors (fixed + variable inputs). Moreover, the law implies that when, under the given technology, the stage of diminishing returns takes place, we should change the technology to avoid its occurrence.

20.8 PRODUCTION FUNCTION WITH TWO VARIABLE INPUTS: THE LAWS OF RETURNS TO SCALE

Over a lengthy period of time, different elements can be adjusted. In the long-run, all elements become unpredictable. Thus, when manufacturing scale is increased over time, a firm's size may eventually be increased. Returns to scale is the term economists use to explain how output behaves over the long-run in relation to changes in factor inputs.

As a result, returns to variable factors exist in the near term. We have returns to scale over the long term. The long-run production function $Q = f(a_1, b_1, c_1, ..., n, T)$ implies that all components of inputs are varied to increase production.

We may, thus, state the principle of returns to scale as follows:

Statement: "As a firm in the long-run increases the quantities of all factors employed, other things being equal, the output may rise initially at a more rapid rate than the rate of increase in inputs, then output may increase in the same proportion of input, and ultimately, output increases less proportionately."

Assumptions: The legislation, however, presupposes that:

1. The method of manufacturing remains the same.
2. There is homogeneity among all units of components.
3. The returns are quantified in tangible terms.

Long-term returns can be divided into three phases, each of which has a different name: (1) the law of increasing returns, (2) the law of constant returns, and (3) the law of diminishing returns.

20.8.1 The Law of Increasing Returns

Rising returns to scale are described by the law of increasing returns. When a certain proportion increase in input results in a bigger relative percentage rise in the resulting output, there are rising returns to scale.

Algebraically, $\frac{\Delta Q}{Q} > \frac{\Delta F}{F}$

where, $\frac{\Delta Q}{Q}$ = Proportionate change in output and $\frac{\Delta F}{F}$ = Proportionate change in inputs (factors).

Thus, the ratio of the proportionate change in output to a specific proportionate change in input serves as a proxy for the production function coefficient (PFC) over the long-run. In symbolic terms:

$$PFC = \frac{(\Delta Q / Q)}{(\Delta F / F)} \text{ or } = \frac{\Delta F}{F} \times \frac{F}{\Delta F}$$

If $PFC > 1$, it means increasing returns to scale.

Diagrammatically, the law of increasing returns may be represented as in Fig. 20.2.

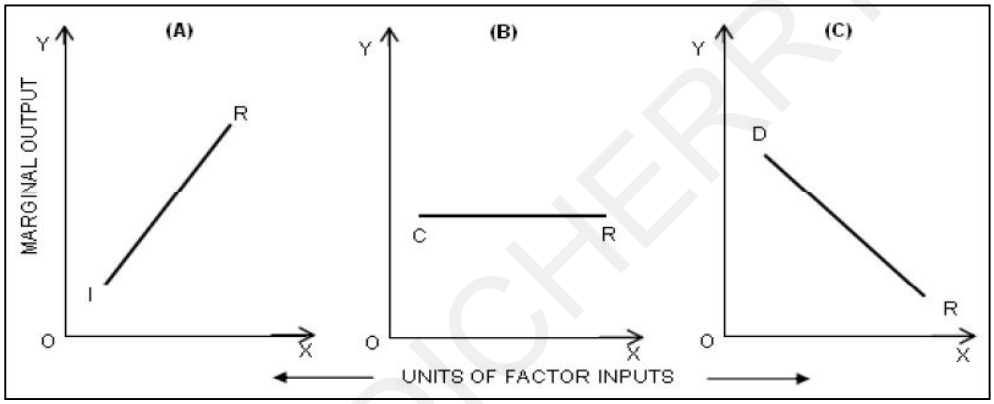

Fig. 20.2: Returns to Scale

R curve represents increasing returns, *CR* curve represents constant returns and *DR* curve represents decreasing returns to the scale of production in the long-run. In Fig. 20.2(A), the curve *IR* is an upward sloping curve denoting increasing returns to scale. The increasing returns to scale are attributed to the realisation of internal economies of scale such as labour economies, managerial economies, technical economies, etc. with the expansion of the size of the firm.

20.8.2 The Law of Constant Returns

But increasing returns to scale cannot continue indefinitely. Constant returns to scale might follow. The economies that are driving the increased returns are progressively exhausted while the company maintains its scale of operations. The constant returns might then happen. When a certain % increase in inputs results in the same percentage rise in output, there are consistent returns to scale.

Algebraically, $\frac{\Delta Q}{Q} < \frac{\Delta F}{F}$. It suggests that when factor inputs are doubled, the output is also doubled. Thus, *PFC* = 1 under constant scale-returns. The law of constant returns can be depicted graphically as in Fig. 20.2 (B).

In Fig. 20.2(B), the curve *CR* is a horizontal straight line depicting constant returns to scale. According to how the rule of constant returns to scale operates, internal economies that may come from other causes may offset the effect of internal economies that arise from certain other factors, causing the output to increase in the same proportion as the input. It should be highlighted that constant returns to scale only apply to times when all conceivable factors can be adjusted. Constant returns to scale are quite often assumed in economic theoretical models for simplification. Such an assumption is based on the following conditions:

1. All factors are homogeneous.
2. All factors are perfectly substitutable.
3. All factors are infinitely divisible.
4. At the current pricing, the supply of every factor is completely elastic.

20.8.3 The Law of Decreasing Returns

Growing factor diseconomies may be encountered as the business grows. Declining returns to scale thus occur when strong diseconomies are confronted by weak economies of some elements. When the rise in output is smaller than the increase in input, there are declining returns to scale.

Algebraically, $\frac{\Delta Q}{Q} < \frac{\Delta F}{F}$. In light of decreasing returns to scale, PFC 1.

Diagrammatically, the law of decreasing returns may be presented as in Fig. 20.2(C). In Fig. 20.2(C), the curve *DR* is a downward sloping curve denoting decreasing returns to scale.

Declining returns to scale are typically linked to escalating organisational issues and the complexity of large-scale management, which may be quite demanding physically. Economists generally consider the following causes for the decreasing returns to scale:

1. Organisation and management as a factor cannot be raised in an identical ratio even while all physical factor inputs are increased proportionately.
2. When production scale is increased, business risk rises over proportionally. An entrepreneur's physical efficiency has its own bounds.
3. Growing large-scale production diseconomies emerge when the scale of production exceeds a certain point.
4. Huge-scale supervision and coordination issues become complex and unsolvable due to the growing challenges of managing a large organisation. A extremely large business could become difficult to run.
5. As a result of diseconomies caused by imperfect factor substitutability, marginal output declines.

Check Your Progress

5. Explain the law of diminishing marginal returns.
6. What is the economic significance of the law of diminishing marginal returns?

20.9 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Utility creation, such as the creation of form, location, time, and service utilities, is referred to as production.
2. The technological-physical link between inputs and outputs is referred to as the production function.
3. Over the long-run, all factor inputs, including labour, mechanics, etc., become variable.
4. Long-run production function:

   $Q = f(a, b, c, ..., n, T)$

   where, $a, b, c, ..., n$ = factor's unit and T = technology
5. The Law of Diminishing Marginal Returns: "Other things buying equal, as the production of one factor employed in combination of other factors, after a point, the average and marginal product of that factor will be diminishing."
6. The knowledge of the Law of Diminishing Marginal Return is useful in practice to the businessmen in production planning at micro level. It also suggests the need for technological change to overcome its occurrence.

20.10 SUMMARY

- Production is the process of transforming a factor's input into a product's output.
- Production is briefly defined as the creation of utilities.
- A short-run is defined as a time frame during which certain variables tend to stay constant or unaltered.
- Law of Diminishing Marginal Returns: "The average and marginal product of that component will diminish after a point as the proportion of that item in a combination of factors is increased."
- The Law of DMR holds true conditions homogeneous factor units, given technology.

20.11 KEY TERMS

- **Production:** The development of utilities like form, place, time, and service utilities.
- **Short-run:** Period in which certain factors tend to be fixed.
- **Long-run:** Period in which all factors become variable.

- **Total Product:** Total number of output units generated per unit of time using all combined inputs.
- **Average Product:** Total product quantity unit divided by the total input units of a factor.
- **Marginal Product:** The ratio of the overall product's change divided by the variation in the variable factor's utilisation during manufacturing.

20.12 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is meant by production?
2. Define short-run and long-run period of production.
3. How will you measure total product, average product and marginal product?
4. Indicate the significance of the law of non-proportional output to businessman.

Long Answer Question

1. State and explain the law of diminishing marginal returns.

20.13 REFERENCES

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Chapter 21 The Boundaries and the Behaviour of the Profit-maximising Firm

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Define firm
- Specify firm's objectives
- Explain the meaning of profit
- Indicate the conditions of profit maximising

Structure:

21.1 FIRM: MEANING

In economics, the terms 'firm' and 'industry' connote different meanings from those which are understood in common parlance. Firm is a term used to describe a business that produces goods. Economists usually debate on the term 'commodity'. In a broad sense, a commodity connotes a group of goods which tend to satisfy a specific human want. In reality, however, it is difficult to make a sharp demarcation between the various wants and commodities. The term 'commodity' hence may be

referred to as the output of a particular industry. The term 'firm' pertains to the productive unit and not to the ownership or the controlling body. A number of firms may by owned, operated and controlled by the same person or the controlling body, such as the Board of Directors in the case of a joint-stock company. Thus, 'firm' refers to a business enterprise. In short, firm is an individual productive unit, and industry a set of all such firms, big or small, engaged in the identical productive activity. The most prominent characteristics that they have in common, such as:

(i) Homogeneous Products: A certain industry, such as agriculture, fishing, mining, etc., will be made up of all those businesses manufacturing almost identical commodities.

(ii) Some Type of Products: A specific industry will be made up of all businesses that make rival goods, for example, the textile industry is made up of businesses that produce various types of textiles.

(iii) Common Raw Materials: An industry is made up of all the businesses that produce finished goods using the same basic materials. For instance, clay is used in the pottery business, which is the common raw material used, irrespective of whether finished goods are crockery or pots of different shapes and designs.

(iv) Similar Processes: Companies that are involved in performing processes can be broadly grouped into an industry, such as engineering, transportation, etc.

(v) Similar Trade and Services: A certain industry will consist of all businesses offering the same services or conducting a similar trade or business., *e.g.*, all types of banks together constitute the banking industry. Cooperatives, joint stock commercial bank, or rural bank.

21.2 FIRM'S OBJECTIVES: BUSINESS GOALS

In economic theory, every firm is assumed to be a one-man firm. The entrepreneur (sometimes also referred to as the businessman) is the owner and controller to the individual firm. As a result, the behaviour of the company and the entrepreneur are studied together. The entrepreneur is supposed to act rationally. Here, the rationality presumption indicates that the businessperson (or the company) aims to maximise financial gains. For over a century, in economic theory, the maximisation of profits is regarded as the sole objective of a rational firm.

There are a multiple of objectives of a business firm, such as: (i) Profits, (ii) Sales maximisation, (iii) Gaining market share, (iv) Fostering a positive business image, (v) Maintaining sound finances and liquidity, (vi) Maintaining positive employee relations, (vii) Experiencing job satisfaction, (viii) Enjoying leisure and peace of mind, etc.

Check Your Progress

1. Define firm.
2. State the business goals.

21.3 PROFIT: CONCEPTS

Profit is the main economic motive of a business firm. The entrepreneur gets his reward in terms of profit. A rational entrepreneur, therefore, always seeks to maximise his profit.

The entrepreneur gets his reward in terms of profit.

Profit is defined as the difference between a company's total revenue from sales proceeds of a certain output and its production costs in the common meaning. Symbolically, thus:

$\pi = R - C$, where, π = profit, R = total revenue and C = total costs.

When $R > C$, then $R - C$ is a positive value; it is called profit. If, however, $R < C$, then $R - C$ is negative; it is called loss. This is the accounting sense of interpreting the term profit. But, when economist calculate total cost, they include all explicit as well as implicit costs. Economists have, therefore, two distinct notions of profits: (*i*) normal profit and (*ii*) supernormal profit.

21.3.1 Normal Profit

It refers to the earnings that are just right to persuade the company to remain in the sector. Thus, normal profit is the minimal logical level of profit that an entrepreneur needs achieve over the long term to be persuaded to continue using his resources in their current form.

Normal profit is always considered to be one of the costs of the factor.

It must be kept in mind that the entrepreneur seeks a regular profit of a fixed amount that is unrelated to productivity. A normal profit is hence a fixed implicit cost element when used as a factor cost. Evidently, total normal profit, such as *TFC*, spreads across the range of production when output increases. This affects how the average cost curve is shaped (*AC*), as shown in Fig. 21.1.

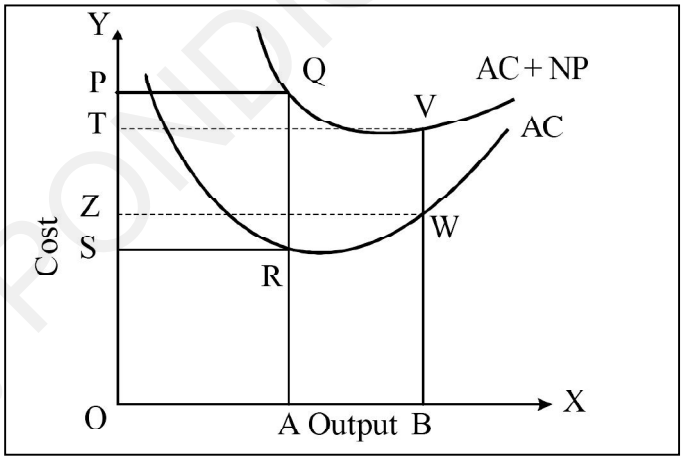

Fig. 21.1

Following Professors Stonier and Hague, in Fig. 21.1, We have created two *AC* curves, one without the typical profit cost portion (*AC*) and one with it (*AC* + *NP*) included. It can be seen that the vertical distance between the *AC* and *AC* + *NP*

curves tends to steadily decrease as we move from left to right. This suggests that the usual profit per unit of output decreases as output grows. At all output levels, the overall profit is unchanged. Geometrically speaking, the average normal profit is thus *QR* when output is *OA*. The average normal profit decreases to *VW* as output increases to *OB*. In the first scenario, total profit is *PQRS*, whereas in the second, it is *TVWZ*. *PQRS*, though, equals *TVWZ*.

In economic theory, the normal profit is always included as a component of factor cost whenever the average cost curve is drawn. *ATC* curve hence denotes *AC* + *NP* curve.

21.3.2 Supernormal Profit

Profits that are higher than the average profit are known as supernormal profits. Supernormal profit is obtained when total revenue exceeds total costs (i.e., $R > C$), since normal profit is accounted for in the cost of production. Additionally known as "excess profit," it is pure corporate profit. Supernormal profit is dependent on the erratic and unexpected business demand conditions. Supernormal profit is the compensation for assuming business uncertainty and unpredictability risk. In a market that's competitive, an entrepreneur may occasionally achieve supernormal profit levels by working incredibly hard.

New entrants will be drawn into the industry when the incumbent enterprises make profits that are above average. Consequently, the industry's stability is under danger. By the way, subnormal profit is what the firm makes when $R > C$ and just a portion of normal profit is realised by the company. Subnormal profit is the profit that is made when total revenue fully and partially covers all of the explicit costs of providing entrepreneurial services.

Check Your Progress

3. How will you measure profit?
4. What is normal profit?

21.4 CONDITIONS OF PROFIT MAXIMISATION: FIRM'S EQUILIBRIUM POINT

In determining the equilibrium of a firm, it is presumable that the company wants to maximise its profits.

Normal profits and the excess of total revenue over total costs, often known as residual income, make up an entrepreneur's income. Normal profits are the minimum income which the entrepreneur must receive if he is to continue to remain in the line of production. They are a part of the costs, and in pursuing the objective of profit maximisation, the entrepreneur does not aim at maximising normal profits. What he aims at maximising is the residual income, *i.e.*, the term "supernormal profit" refers to the gap between total revenue and total expense.

When a corporation shows no signs of wanting to increase or decrease its output, it is considered to be in equilibrium. Such a situation arises when a company maximises its residual profits. The gap between entire revenue and total

expense is what is known as residual profit. As a result, a company will reach equilibrium when the difference between its total revenue and total expense is maximised. There are, thus, two complementary approaches to determine the conditions of profit maximisation or the equilibrium output of the firm. These are: (1) Total Revenue – Total Cost Approach and (2) Marginal Revenue = Marginal Cost Approach, respectively.

21.4.1 Total Revenue – Total Cost Approach

Total profit is maximised when this disparity reaches its maximum, as profit is the difference between total revenue and total cost. Thus, an equilibrium position will be identified where the positive difference between total revenue and total cost is greatest by comparing total revenue and total cost at each level of output. Let's look at a case study of a fictional corporation operating under perfect competition to clarify the argument. Assuming the prevailing market price to be ₹ 10 per unit, its revenue and cost data are presented in Table 21.1.

Table 21.1: Revenue, Cost and Profit of Hypothetical Competitive Firm

***TR -TC* Approach**				***MR = MC* Approach**		
Market Price (₹ per unit) (*P*)	**Units of Output Sold (*Q*)**	**Total Revenue (₹) (*TR = PQ*)**	**Total Cost (₹) (*TC*)**	**Profit (+) or Loss (–) = (*TR – TC*)**	**Marginal Revenue (₹) (*MR*)**	**Marginal Cost (₹) (*MC*)**
10	0	0	10	–10	0	0
10	1	10	16	–6	10	6
10	2	20	20	0	10	4
10	3	30	21	+ 9	10	1
10	4	40	22	+18	10	1
10	5	50	25	+25	10	3
10	6	60	30	+30	10	5
10	7	70	37	+33	10	7
10	8	80	47	+33	10	10
10	9	90	61	+29	10	14
10	10	100	81	+19	10	20

Since we assume a model of perfect competition, It would seem that the company can sell as much as it wants at the current market price of ₹ 10. But the firm will not be producing any amount just at random. A rational firm will try to maximise its profit. It can be seen from Table 21.1 that the maximum profit is ₹ 33, which is obtainable either by producing 7 or 8 units of output. Because of discrete data assumed, here we find an element of indeterminacy. But if continuous data are presented, there will be no such indeterminacy; only specific output level will be obtained which yields maximum total profit. This can be easily seen by making a comparison of the *TR* curve and *TC* curve. (When the curves as drawn, continuous data are implied.) In this regard, see Fig. 21.2.

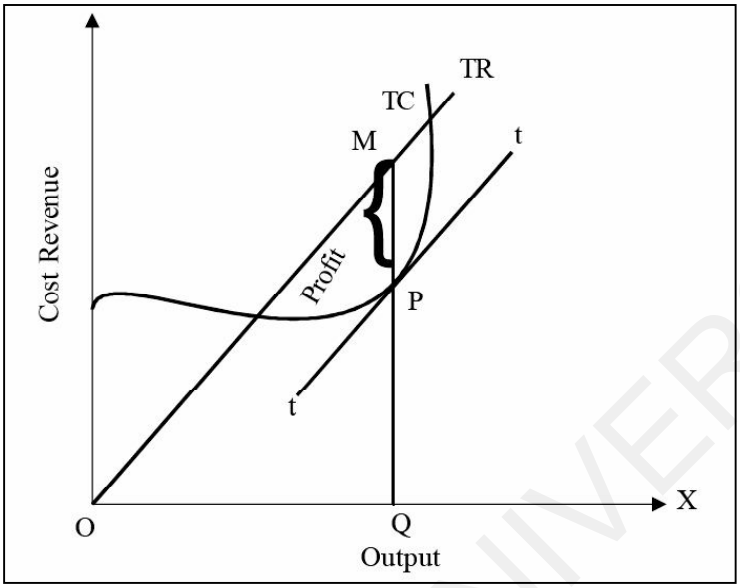

Fig. 21.2

In Fig. 21.2, the firm's overall revenue is represented by the *TR* curve. The total cost at each output level is calculated using the *TC* curve. It must be noted that the *TR* curve in a perfect competition model is always a straight line at 45° to the X-axis, because of the constant price charged per unit of output sold.

By comparing *TR* with *TC* over a given range of output, the firm can determine at what levels it makes profits and losses, etc. From the chart, it can also determine the point at which its losses cease and profits begin. At the output level where the vertical separation between the *TR* curve and the *TC* curve is greatest, the firm makes the most money. This is obtained geometrically when the slopes of the two curves are equal. The straight line *TR* curve of a completely competitive firm has a constant slope. But the *TC* curve has different slopes at different points. At point *P*, create a tangent to curve *TC* that is parallel to curve *TR*. Draw a perpendicular *MQ* to the X-axis at the intersection *P*. *MP*, which denotes maximum profit, is the largest conceivable difference between *TR* and *TC*. When the output is at *OQ* level, the company is in equilibrium. At this level of output, the total profit may be measured geometrically as follows:

$$\pi = TR - TC, \quad \therefore \pi = MQ - PQ = MP$$

21.4.2 Marginal Revenue = Marginal Cost Approach

Comparing marginal revenue (*MR*) and marginal cost (*MC*) for each succeeding unit of output instead of total revenue (TR) and total cost is an alternate, more practical, and informative way to determine a firm's equilibrium output (*TC*). In fact, *MR* is derived from *TR* and *MC* is derived from *TC*. It has been thus laid down that when marginal revenue equals marginal cost, the overall profit is maximised and the firm reaches equilibrium. According to this "golden rule," a business will continue to increase its output as long as each extra unit it produces results in higher total revenues than additional total expenses. The company won't build a product that increases total costs more than it increases total revenues,

obviously because this would put the firm to a loss. In other words, by increasing output to the point where the marginal revenue just touches the marginal cost, the firm will increase profits. If the company produces an output that is either below or above this level, it will suffer because then its total residual profits will be less than maximum. Therefore, a company will be in equilibrium when it generates an output level at which the marginal cost and marginal income are equal. This point is made clear in Table 21.1. Examine the *MR* and *MC* columns in this table. A comparison of the two columns shows that when *MR* > *MC*, producing more benefits to the company since each additional output sold increases total profit. The firm gets maximum total profit of ₹ 33 when 8 units are produced. At this stage, *MR* = *MC*: ₹ 10. A further expansion implies *MC* exceeding *MR*. So, there is loss and reduction in total profit achieved before. Thus, a firm will stick to a production of 8 units per period of time.

The marginal approach thus gives a determinate solution, irrespective of the nature of data, whether discrete or continuous. In graphical terms, under the total curves method, we have seen that when the slopes of *TR* and *TC* are identical, profit is maximised. Profits are considered to be maximised at the level of output where *MC* = *MR* because marginal cost is equal to the slope of the *TR* curve and marginal revenue is equal to the slope of the *TR* curve (it is the same as the slopes of *TC* and *TR* being equal). As a result, the *MR* curve and *MC* curve's intersection represents the equilibrium point., as shown in Fig. 21.3. The marginal revenue curve (*MR*) and marginal cost curve (*MC*) are shown in Fig. 21.3, respectively. At position *E*, *MC* crosses *MR* from below. When the output *Q* is created at point *E*, *MC* = *MR*. *OQ* is the output that achieves equilibrium and maximises profitability. In a diagram, the region beneath the *MR* curve represents the output's total revenue, and the area beneath the *MC* curve represents its whole cost. Thus, the area *AGEF*, which is the profit area, serves as a gauge for measuring the difference between TR and *TC*.

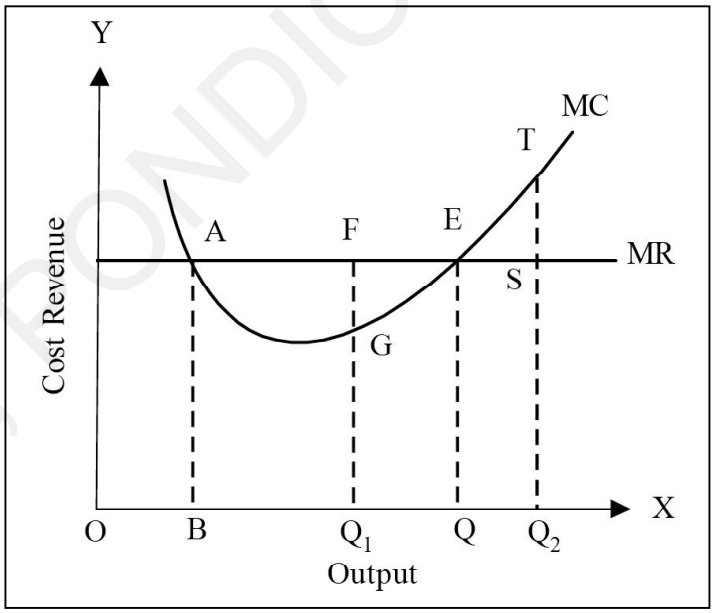

Fig. 21.3

The area *AGEF* is obtained when the firm produces *OQ* level of output at which *MR* = *MC* and the profits appear to be maximum. Supposing the firm is producing less, say, up to *OQ*, then by increasing output further, the firm is in a position to add to its total profit, measured by the area *FGE*, because *MR* > *MC*. The addition to total profit is possible until *MR* > *MC*. The firm will profit by increasing its output so long as its *MR* > *MC*. Once *MR* = *MC*, further production means *MC* > *MR*. As shown in the diagram, when the firm produces OQ_2 units of output, *MC* > *MR*, *i.e.*, loss amounting to the area *EST*. Apparently, to produce up to OQ_2 level of output is not a paying proposition for the firm and it will find it advantageous to reduce the level of output back to *OQ*. Thus, the point at which *MR* = *MC* is the maximum profit position; it is the equilibrium point. Again, for the firm under perfect competition, *MR* = *Price*. Thus, either *P* = *MC* or *MR* = *MC* can be regarded as the equilibrium condition in the case of a competitive firm.

Check Your Progress

5. How can profit be maximised?

21.5 REALITY OF *MC* = *MR* APPROACH

Economic theory implies that decision-making for profit maximisation goal of the firm is simple enough: it is achieved when marginal cost and marginal revenue become equal. Does this mean that, in reality, the business firms do measure the marginal costs and marginal revenues and determine their output level? In actual practice, most business firms are, however, unaware of these economic concepts. Though economic theory is logical in suggesting *MC* = *MR* approach to profit maximisation, it does not describe in reality the problem which actually works for the profit-making decision of the business firm in the real world. Nonetheless, one should not jump to conclude that economic theories are totally unrealistic and have no applicable use. In defence of economic theory in this regard, one may say that theory is generally never intended to be descriptively realistic. It is the view held by the neo-classical school of thought. The fruitfulness of the theory is to be evaluated, by and large, by the accuracy of its conditional predictions — under the framework of its model.

21.5.1 Variants of Competition and Business Practices

In actual practice, though there is no pure competition, there exists severe competition among the producers in various forms. The variants of competition and business practices may be enlisted thus:

1. **Potential Competition:** In a competitive market, free entry of firms cause potential competition. Owing to potential competition, the firms are retrained from overcharging their customers in selling their products and underpaying for buying their raw materials. Science, invention and technological advancement sustain potential competition.

   Potential competition is, however, weakened by factors like the exclusive ownership of scarce resources, huge investment needed to start a

production unit, high transport cost, protectionist devices like tariffs and import quotas, patent rights, etc. Absence of these factors facilitates potential competition.

2. **Effective Competition:** Competition is said to be effective, though it may not be pure or perfect, when there are many sellers competing to sell a product, so that the buyers are offered many alternatives for buying the goods which compels the producers to constantly and genuinely improve the product, services and lower the prices to attract or retain the patronage of the buyers.

   The following factors make competition effective:

   (i) Existence of many sellers – each one being fit to survive and grow.

   (ii) Availability of ready substitution of one product for another.

   (iii) Perquisites of potential competition.

   (iv) Market informations

   (v) Independent actions of each firm in business policy-making.

   The concept of effective competition seems to be more realistic and practicable as against the concept of perfect competition. Effective competition cannot exist if producers are few in number, huge capital investment is required and there is absence of price warfare due to business syndicate of the firms.

3. **Cut-throat Competition:** When there are idle or excess capacity and fixed costs to the firms, they may resort to cut prices of the output, leading to cut-throat competition in the market which benefits none as each firm fails to recover its running costs and even normal profits. Before 1939, British shipping companies had resorted to such cut-throat competition.

4. **Unfair Competition:** When businessmen resort to unfair tactics to seize the market and place the rival at some disadvantage, it is called unfair competition. It is unethical, for example, to take customers away from a rival if a seller resorts to practices like defaming the rival's product, damaging his goods, bribing his salesmen, Unfair competition includes acquiring his trade secrets, bringing bogus legal action against him, and inciting his employees to strike.

21.6 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Firm is an individual productive unit.
2. Major business goals are:
   (i) Profit-making
   (ii) Sales maximisation
   (iii) Increase in market share
   (iv) High business reputation
   (v) Financial stability and liquidity

(vi) Positive labor-management relations

(vii) Job satisfaction

(viii) Leisure and mental calm

3. Profit = Total Revenue – Total Cost
4. Least profit must be realised by the entrepreneur to remain in the business.
5. Profit is maximised by equating the marginal revenue with marginal cost of output.

21.7 SUMMARY

- A firm is a business unit controlling productive process for producing a commodity.
- Industry refers to a specific line of production. Industry is made up of numerous enterprises engaged in competition and producing the same kind of thing.
- In economic theory, it is assumed that a rational firm seeks maximisation of profits.
- Normal profit is that quantity of revenue that is just right to persuade the company to remain in the sector. Normal profit is a part of factor cost. It is included in the *TC* and *AC* curves of the firm.
- Revenue means sales receipts.

  Average Revenue = Total Revenue + Units of Output.

  By definition, Price = Average Revenue.

  $$\text{Marginal Revenue} = \frac{\text{Change in Total Revenue}}{\text{Unit Change in Output}}$$

  The net increase in overall revenue brought about by the sale of an additional unit of a good is known as marginal revenue.

21.8 KEY TERMS

- **Firm:** A business conducting unit.
- **Industry:** Aggregation of firms producing totally identical goals.
- **Normal Profit:** Part of factor cost.

21.9 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Question

1. Distinguish between Normal Profit and Supernormal Profit.

Long Answer Questions

1. State the major objectives of the business firm.
2. Explain *MC* = *MR* approach to profit maximisation. How it work in practice?

21.10 REFERENCES

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Chapter 22 Short-run Costs and Output Decisions

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Understand the firm's output behaviour
- Trace costs and output relation
- Judge the firm's equilibrium process in the short and long-run
- Couch the aspect of profit maximisation

Structure:

22.1 INTRODUCTION

- To a business firm, costs always matter much.
- Because the difference between total income and costs—the profit an entrepreneur makes—depends, obviously, on how much there is a positive difference between these two variables. That is to say, in symbolic terms:

  $\pi = TR = TC$

  where, π stands for profits, *TR* stands for total revenue, and *TC* stands for total cost.
- It follows that when a company is a price-taker in a market where prices are competitive, profit can be enhanced only through lowering of the cost

of production, since $TR = P \times Q$, which implies that in the increase of profit maximisation, the firm has brought down the cost of production as much as possible.

22.2 PROFIT MAXIMISATION: EQUILIBRIUM POINT OF THE FIRM IN THE SHORT-RUN

According to Fig. 22.1, the intersection of the short-term supply and demand curves determines the market's short-term price in the short-run.

The firm derives its revenue functions from the demand curve for its items at this short-run price. The demand for the product is completely elastic from the standpoint of the company. Because of this, the demand curve *D* is a horizontal straight line at the short-period market price, *OP* in our example (Fig. 22.1), which corresponds to the short-run average revenue (*SAR*) and the short-run marginal revenue (*SMR*).

Additionally, short-run marginal cost (*SMC*) and short-run average cost (*SAC*) are calculated for comparison. The intersection of the *SMC* curve and the *SMR* curve from below, resulting in *SMC* = *SMR*, marks the equilibrium point.

E is the equilibrium position in Fig. 22.1, where the *SMC* curve crosses the *SMR* curve from below.

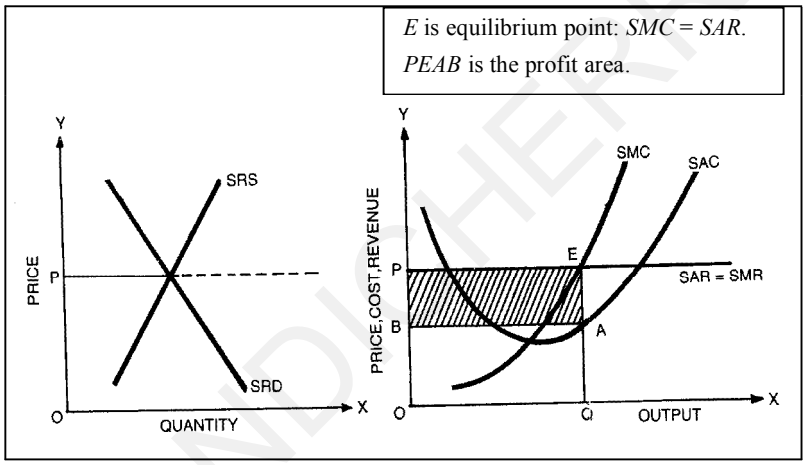

Fig. 22.1: Short-run Profit Maximisation

Therefore, *OQ* is the output equilibrium level established by the firm in the short-run. The discrepancies between the two reflect profit since the regions under the corresponding average revenue and cost curves measure total revenue and total cost. The shaded area *PEAB* represents the maximised profits.

Check Your Progress

1. How does cost matters much to a business firm?

22.3 ANALYSIS OF THE SHORT-RUN EQUILIBRIUM OF THE FIRM

The firm does not necessarily produce excess or supernormal profits when it reaches a short-run equilibrium position (as shown in Fig. 22.2). The average revenue (i.e., price) and average cost function levels in the short-run equilibrium determine its profitability position. Thus:

1. there is extra profit when Price (or *AR*) > *AC*.
2. Only regular profit is generated when *AR* = *AC*.
3. Losses arise when *AR* (or price) < *AC*.

Once more, the equilibrium price in the short-run is unstable. The short-term market price fluctuates as a result of the short-term changes in supply and demand situations. The firm has to adjust its output level in relation to the changing prices. These points become explicitly clear when the process of equilibrium of a competitive firm is analysed graphically (or diagrammatically). For doing so, the individual firm's demand (or the average revenue curve) is to be set against its short-run curve as in Fig. 22.2.

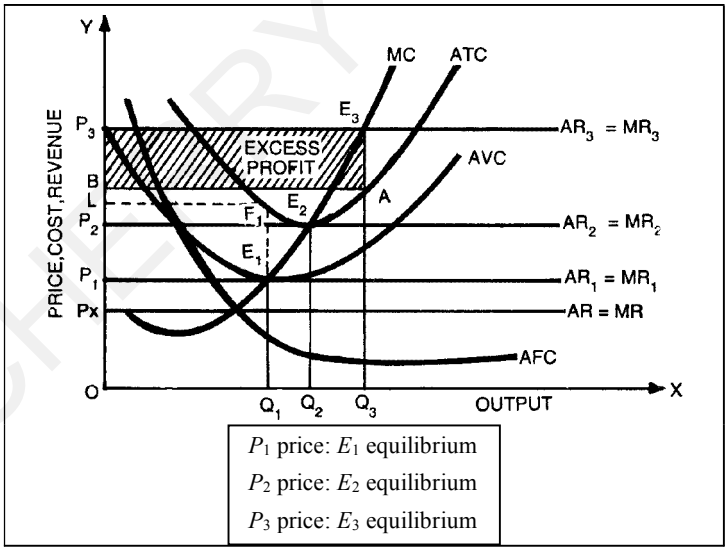

Fig. 22.2: Short-run Unstable Equilibrium of a Competitive Firm

In Fig. 22.2, prices P_1, P_2, P_3, etc. are alternatively market determined short-run industry prices in different short-run demand and supply situations. The firm accepts them alternatively to determine the equilibrium output. With the corresponding revenue functions such as $AR_1 = MR_1$, $AR_2 = MR_2$, etc., the short-run per cost functions, *MC*, *ATC* and *AVC* are compared.

It may be recalled that a competitive firm will have a set of four per unit cost curves in the short-run, *viz*., *AFC*, *AVC*, *ATC* and *MC* curves. The average revenue curve for the company with perfect competition is a horizontal straight line at a given price since the demand for its product is perfectly elastic. All these curves are set in one diagram (Fig. 22.2). It must be noted that the *MC* curve in the figure has the shape of an 'umbrella handle'. This is because only the rising path of the *MC*

curve is important in deciding the equilibrium point, hence the falling path of the curve has been eliminated. Similarly, the *AFC* curve is quite often eliminated from the equilibrium diagram, because it has no significant role to play in the equilibrium process in the short-run. Because fixed costs do not vary with output, the firm in the short-run will not be very anxious to recover them immediately.

22.3.1 Analytical Points Galvanisation

1. **Losses:** The firm will experience losses rather than profits if the market price of the commodity is less than the short-run average total costs at all feasible output levels. In our example (Fig. 22.2), the company with the provided cost conditions would be in equilibrium at point E and produce OQ_1 level of output when the market price is OP_1. Even though *MR* Equals *MC* at this point, the corporation loses money. On the contrary, it incurs some losses as Price (or *AR*) = *AVC* only. Its *AC* (or *ATC*) curve, however, is higher than its *AR* curve. As a result, the firm's production price is insufficient to fully recoup its costs. The equilibrium requirement *MR* = *MC* is met at point E_1, although the company's overall revenue is $OP_1E_1Q_1$ (the area underlying the firm's demand curve) at price OP_1. It roughly equates to the entire variable costs for the company (which is also $OP_1E_1M_1$ the area underlying the *AVC* curve). Because at a certain price, $OP_1 = AR_1 = AVC$. It appears that the firm's entire fixed expenses for producing output at an *OQ* level are still unknown.
2. **Shutdown Point Price:** The company will stop making the product if the market price is less than the minimum average variable costs, like in our example. If the price is below the average variable cost, neither the fixed costs nor a portion of the variable costs will be covered. The company can therefore reduce losses only to total fixed expenses by ceasing production. As a result, it is known as the shutdown point price.
3. **Normal Profit:** In the short-run, the firm only receives normal profits when the price is equal to the average total costs. In our example, the firm is in equilibrium at point E_2, where *MR* = *MC*, when the price is OP_2. Price now equals *AR* plus *AC*. Because the *AC* curve is tangent to the *AR* curve at point E_2 and the underlying region $OP_2E_2O_2$ is shared by both, the firm's total revenue from creating output at the OQ_2 level is equal to its entire cost. At this price, the company generates that amount of output, giving him total revenues that are nearly equal to total costs. Thus, the company just generates a typical profit. The company is now operating at the *AC* curve's minimum point. Therefore, *TR* = *TC*. This is called the "break-even point". At this point, the firm is not able to maximise its real business profit, but it only gets a maximum normal profit, which is just sufficient for the firm to be in business.
4. **Excess Profit:** When the short-run market price is above the short-run average total costs, the firm makes excess profits. In our illustration, when the price is OP_3, the equilibrium point is E_3 for the firm and the firm produces OQ_3 level of output. At this point, *MR* = *MC*, but *AR* > *AC*.

Check Your Progress

2. What is meant by the shutdown point price?

22.4 THE SHORT-PERIOD EQUILIBRIUM OF THE FIRM AND INDUSTRY

When there is no tendency for an industry's overall output to increase or decrease, or when the industry's output is stable, the industry is in equilibrium in the short-run. When the following three conditions are satisfied, an industry will be in equilibrium in the short-run:

1. The individual businesses that make up the industry don't frequently change their output. Therefore, no existing firm will change its output when each produces output at which *MR* = *MC*. In other words, the output of all currently operating enterprises must be at a steady state.
2. Each company in the sector does not necessarily need to generate typical earnings in the short term. Depending on their cost functions, some businesses may make normal profits, some may make supernormal profits, and some may even lose money. Accordingly, businesses that experience maximal losses and supernormal profits can coexist alongside the industry's short-term equilibrium. Short-term supply and demand, which together determine the short-term market price, are in equilibrium. The market is cleared when the entire quantity supplied and requested, at the equilibrium short-run market price, are equal. Therefore, there is no justification for a short-term shift in the market price. Thus, the market and all the firms in the industry attain short-run equilibrium at this price (see Fig. 22.3).

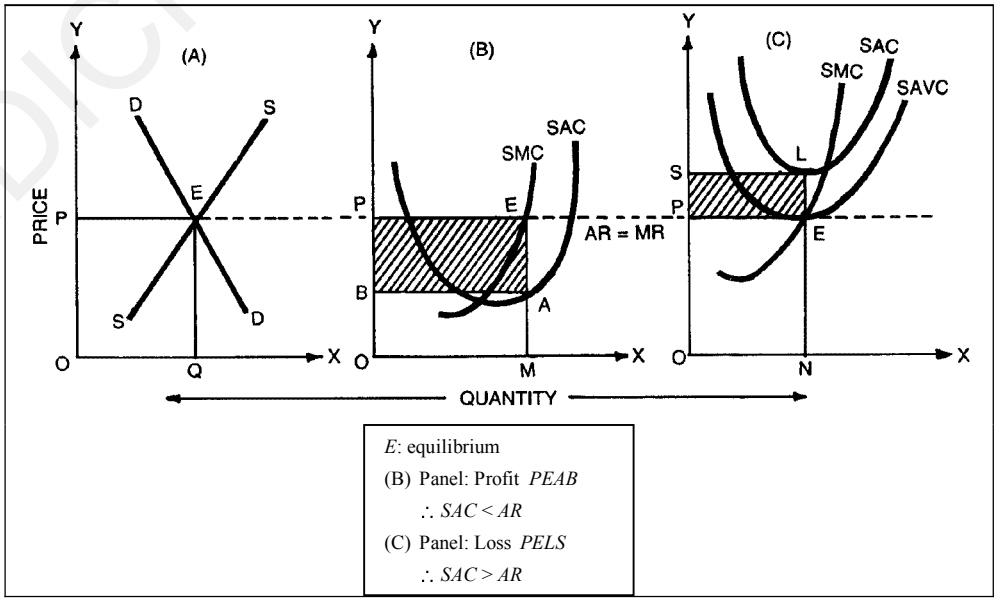

Fig. 22.3: Industry and Firm's Equilibrium

In the Fig. 22.3(A), short-run industry supply is represented by curve *SS*, and short-run industry demand is represented by curve *DD*. Both curves meet at *E*,

where *OP* is established as the short-run equilibrium price, and *OQ* is the quantity demanded that is equal to the quantity supplied across the board. Industry is in equilibrium at this cost. By equating *MR* with *ME*, the enterprises are also in an equilibrium. But, they may be making profits or losses as in Fig. 22.3(B) and (C).

Check Your Progress

3. Explain, drawing the diagram, the short-period equilibrium of a firm.

22.5 LONG-RUN EQUILIBRIUM OF THE FIRM

For attaining equilibrium, the same principle of equalising *MR* with *MC* is applied in the long-run. Thus, the firm has to set its long-run costs with the price and revenues. The long-run average cost curve has a disc form because the company can alter its output by altering the size of its facility. The *LMR* = (*LAR*) curve, however, would be a horizontal straight line if the demand curve of the competitive company were perfectly elastic at the specified long-run market price. To maximise earnings, the company would produce at the output level where *LMR* = *LMC*. In other words, over time, the firm modifies its output and plant size to align long-term marginal costs with price. According to Prof. Lipsey, the key to long-term stability under perfect competition is the entry into and exit of enterprises from the industry. The process of long-run equilibrium of a competitive firm has been illustrated in Fig. 22.4.

Fig. 22.4 graphically depicts the process of long-run equilibrium adjustment in the output produced by a typical is relation to the alternative long-run market price.

In Fig. 22.4, panel (A) represents the market demand and industry's supply position of a given product in the long-run; panel (B) represents a given firm's *LAC* and *LMR* at various prices P_1, *P*, etc. The firm is a price-taker, and the intersection of the industry's supply and demand curves (*DD* and *SS*) determines the market price over the long term (the normal price). Initially, suppose S_1S_1 is the supply curve which intersects the *DD* curve so that OP_1 is the equilibrium price. At this price, the firm gets LMR_1 curve which intersects the *LMC* curve at point E_1. The firm produces OQ_1 of output.

At this point, the firm gets excess profits, since *LAR* > *LAC*.

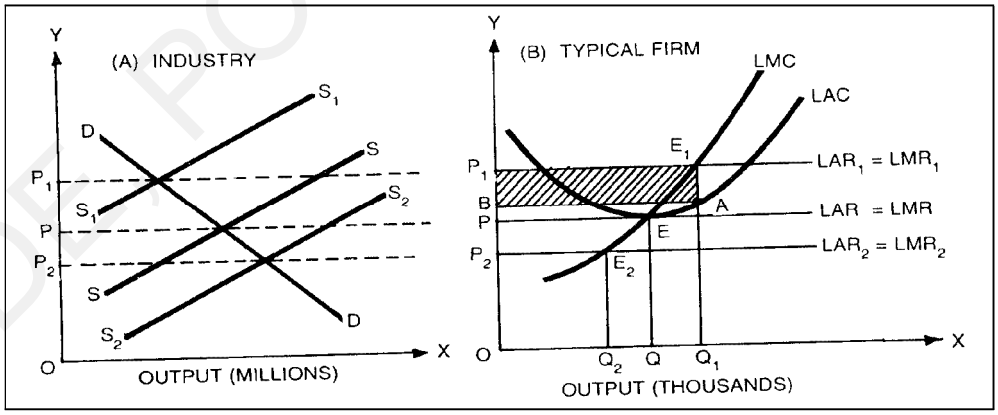

Fig. 22.4: Process of Long-run Equilibrium

The amount of excess profit earned is denoted by the shaded area P_1E_1AB. As such, some new firms are attracted to the business. Because when a firm in the long-run gets pure excess profit, it means that relatively there is a small number of firms in the industry as compared to the industry's total demand for the product. Further, the long-run provides ample time for the producers in other industries to enter the industry which appears to be more profitable. Mobility of firms from one industry to another is possible under perfect competition, as perfect mobility of all factors is assumed to be an essential condition of a competitive market. The supply of the industry increases as a result of the new firms entering the market, which causes the supply curve to move to the right. Then the long-run equilibrium price will obviously decline with the increase in supply, the demand being unchanged. With the fall in price, the firm contracts its output also, and obviously its excess profits will decline. But still the firms may yield some excess profit. This continues to provide an attraction to new producers to enter the industry. When more new firms enter, the supply curve shifts further downwards to the right. Now, the supply curve may become *SS*; when it intersects the demand curve *DD*, *OP* price is obtained. The firm readjusts its output with the failing price at *OP*. Now, the firm *OQ* level of output, at which *LMR* = *LMC*. But, at this point *LAC* = Price. Hence, the firm gets only the normal profit. The attraction for the new firm now ceases. Further, if the supply curve would have shifted further to S_2S_2, then the price would have been OP_2. Then, the firm would have attained a temporary equilibrium point E_2. But, the firm at this point incurs losses. Long-term, the business must generate a regular profit and cover all of its expenses. If it cannot, it has to quit the industry.

The long-run full equilibrium position of a typical representative firm is, therefore, redrawn explicitly in Fig. 22.5. In Fig. 22.5(A), the firm earns just normal profit under the full equilibrium conditions of the long-run. Thus, *P* = *LAR* = *LMR* = *LAC* = *LMC*, Similarly, Fig. 22.5(B) shows that Long-run Price = *LMC* = *LMR* = *LAC* = *SAC* = *SMC*.

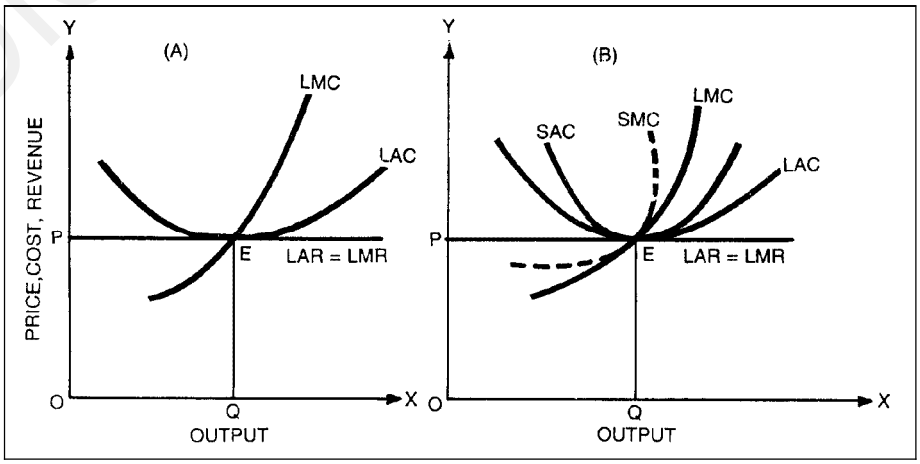

Fig. 22.5: "Full Equilibrium" of the Firm in the Long-run

The firm in the long-run has a permanent single equilibrium point, where:

Price = *LMR* – *LMC* = *LAC*

Check Your Progress

4. Indicate the firm's equilibrium of costs and revenue conditions in the long-run at the long-run market price.

22.6 EQUILIBRIUM OF THE INDUSTRY IN THE LONG-RUN

The industry reaches equilibrium under the existing demand and supply conditions when its overall output is stable over the long term. Under the following circumstances, the equilibrium in a perfectly competitive industry is established:

1. Since an industry is a collection of firms, it would appear that all of the current firms in the industry would have to produce an equilibrium level of production in order for it to be in long-run equilibrium (*LMC* = *LMR*). The sum of their outputs makes up the industry's entire supply.
2. The number of businesses in the sector must remain consistent. A new firm shouldn't be allowed to enter. Furthermore, none of the ones that already exist exist. For this to be true, all currently operating businesses must be making typical profits. When Price or *LAR* = *LAC* is true for all companies, this occurs.
3. In order to clear the market and achieve long-term equality between total amounts requested and supplied, the long-run equilibrium price is set. Thus, Fig. 22.6 shows the industry's long-term equilibrium.

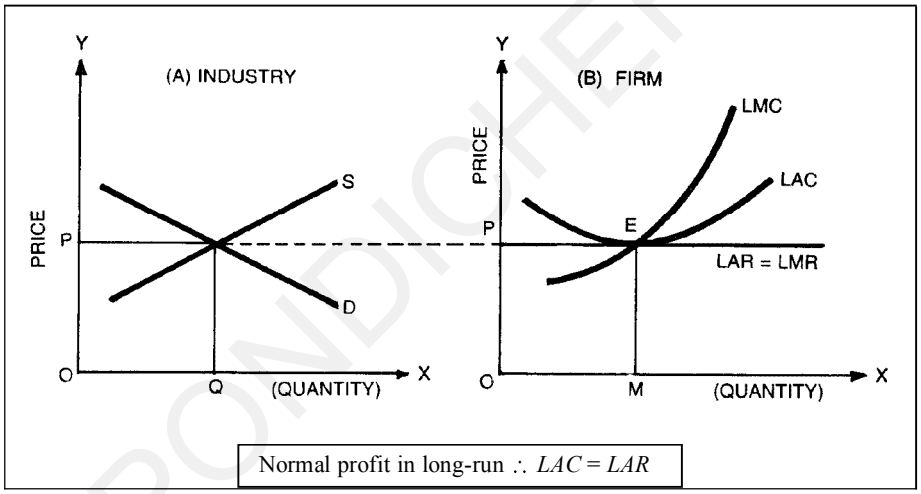

Fig. 22.6: Industry and Firm's Equilibrium in the Long-run

The intersection of the long-run supply curve *S* and the long-run demand curve *D* in Fig. 22.6(A) yields the long-run price *OP*. *LMR* = *LMC* is used to calculate the firm's equilibrium at this price. *OM* is therefore the firm's equilibrium output over the long term. Price = *LAR* = *LMR* = *LAC* = *LMC* is the entire equilibrium position. As a result, the company makes barely average earnings.

To sum up, industry and firm's equilibrium conditions in the long-run are: Long-run Equilibrium Price = *LAR* = *LAC* = *LMR* = *LMC*.

22.7 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Since the basic interest of a firm in undertaking a business is concerned with the profit earning, which depends revenue exceeding costs of production, cost matters much, as competitive price is determined by the market, where costs can be handled by the firm. Cost is an internal phenomenon that can be controlled or manipulated. While, a competitive firm being a price-taker has to rely on the market behaviour.
2. Shutdown point price is the market competitive price. Such a loss happened to be found by the firm that it may incur a heavy loss which can be sustained. So, the entrepreneur decides to give up the business, close down the firm and exit from the market.
3. In a competitive market, industry as a whole decides the market price. The firm has to decide its output behaviour as a price-taker. Firm's equilibrium output position has to be in coordination with the industry equilibrium. This economic idea can be exposed in terms of the diagram presented in Fig.
4. Price = *LMC* = *LMR* = *LAC* = *SAC* = *SMC*
   where,
   LMP = Long-run marginal cost
   LMR = Long-run marginal revenue
   LAC = Long-run average cost
   SAC = Short-run average cost
   *SM*C = Short-run marginal cost

22.8 SUMMARY

- Success of a business firm depends on its process of revenue maximisation and cost minimisation.
- Profit is the result of comparing total income with entire costs and finding a positive difference.
- When total costs exceeds total revenue, it implies loss in business.
- Shutdown condition is that the firm hopelessly finds the market price tending to be less than its minimum average variable costs.
- The equality of a firm's marginal revenue and marginal cost determines its equilibrium output level.
- In the long-run, Price = *LMC* = *LMR* = *LAC* = *SAC* = *SMC*.

22.9 KEY TERMS

- **Profit:** Positive difference between the business firm's total revenue and total costs.
- **Normal Profit:** Price being just equal to average costs in the short-run.
- **Excess Profit:** Market price being higher than average costs.

22.10 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Define Profit.
2. State the basic conditions of profit maximisation by the firm.
3. Explain shutdown point price.

Long Answer Questions

1. Give an account of profit-maximising action of a competitive firm in the short-run.
2. Explain the process of short-period equilibrium of the firm and industry.

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Unit V: Introduction to Macroeconomics and National Income Accounting

Chapter 23 Macroeconomics: An Overview

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Grasp the meaning of macroeconomics
- Know the methodology of macroeconomic analysis
- Spell out the subject matter of macroeconomics
- Trace the importance of macroeconomics

Structure:

23.1 THE ROOTS OF MACROECONOMICS: NATURE OF MACROECONOMICS

The study of the whole behaviour of the economy can be summed up as macroeconomics. According to Prof. Ackley, "Macroeconomics deals with economic affairs 'in the large', it concerns the overall dimensions of economic life." In a nutshell, macroeconomics examines the main problems, challenges, and policies affecting the economy today.

The study of the main economic "aggregates" or totals is known as macroeconomics. The most important economic aggregates include national income, money, total investment, savings, unemployment, inflation, balance of payments, exchange rates, etc.

In macroeconomic analysis, the actions of economic agents, such as businesses, people, and governments, are viewed as a whole without consideration of specifics at the lower level, or the micro level.

23.2 CONCERN OVER THE METHODOLOGY OF MACROECONOMICS

However, macroeconomic methodology is different from microeconomic methodology. In microeconomic analysis, it is presupposed that the economy's overall output and general price level are known, and then an explanation is given for how the equilibrium price and output of a particular good are determined. In macroeconomic analysis, we take the relative price and income distribution as givens and try to explain how total output/income and the general price level are determined.

Check Your Progress

1. Define macroeconomics.
2. How is the methodology of macroeconomics different from that of the macroeconomics?

23.3 SCOPE AND SUBJECT MATTER OF MACROECONOMICS

Macroeconomic theories explain the connections and causes between various macroeconomic variables, as well as difficulties with the overall economic behaviour and its effects. Different macro-theories exist from the micro-theories. The latter deal with individual units, while the former deal with aggregates.

Numerous macroeconomic theories exist. They are:

- Both classical and keynesian theories of income and employment exist.
- Trade cycle theories include:
  - (*a*) the pure monetary theory.
  - (*b*) The hypothesis of monetary overinvestment.
  - (*c*) The hypothesis of non-financial overinvestment.
  - (*d*) The theory of underconsumption.
  - (*e*) Psychological theory.
  - (*f*) Innovation theory.
  - (*g*) Keynes's marginal efficiency theory.
  - (*h*) The trade cycle theory of Hicks.
- economic growth theories, such as the big-push idea.
- Inflation theories, such as the Phillips curve hypothesis.
- Theory of fiscal policy, such as the multiplicative theory of a balanced budget.
- Theory of monetary policy, such as quantity theory of money-monetarism.

Demburg puts it, "Macroeconomics is first and foremost a policy science."

Macroeconomic policies have macroeconomic goals to fulfill. Macroeconomic goals are:

- Price stability.
- Economic stability.
- Exchange rate stability.
- Full employment.
- Economic growth.
- Economic justice.
- Improvement of common standard of living.
- Eradication of poverty.

There are a number of macroeconomic policies, such as:

- Monetary policy.
- Fiscal policy.
- Income policy.
- Trade policy.
- Industrial policy.
- Import-Export policy.
- Banking policy.
- Planning policy.

Check Your Progress

3. What is the theoretical and practice importance of macroeconomics?

23.4 SIGNIFICANCE OF MACROECONOMIC

Macroeconomic studies have unique theoretical and practical significance.

1. **Macroeconomics Offers an Exploration of the General Operation of an Economy:** One can better comprehend how the economic system functions by using macroeconomic tools and methodologies.
2. **Empirical Evidences:** Macrostudies are founded on empirical data supporting the issues raised by the theories. More practical is macroeconomics.
3. **Policy-orientation:** A science with a focus on policy is macroeconomics. It makes a few policy recommendations, including fiscal policy, monetary policy, income policy, etc., to address the nation's complicated economic issues, including unemployment, poverty, inequality, and inflation.
4. **National Income:** Data on national income are computed, used, and applied in macroeconomics classes. One may comprehend and assess an economy's growth performance over time with the use of national income statistics and accounting.
5. **Income and Employment Theory and Monetary Theory:** The two main areas of macroeconomics with the greatest practical application are monetary economics and the economics of employment and income. Without the foundation of these two domains, planning and policymaking are not conceivable.
6. **Dynamic Science:** The study of macroeconomics is dynamic. It examines challenges and problems from a dynamic perspective and offers

solutions. It enables adjustments. In light of macroeconomic instruments and its general equilibrium analysis method, one can have a better concept of a dynamic perspective in the real economic environment.

Check Your Progress

4. What are the limitations of macroeconomics?

23.5 CONCLUDING REMARKS

There are some restrictions on macroeconomics. Macroeconomic paradoxes are to blame for these restrictions. Macroeconomic paradoxes are phenomena that hold true for entire economic systems but are false in specific circumstances.

1. **Despite internal variability, macroeconomic variable aggregates are viewed as a homogeneous whole:** Macroeconomic analysis measures macro factors as a whole and as uniform components. Individual heterogeneity is not considered in this process. Macro components, on the other hand, are homogeneous wholes with internal variability in their structure. For instance, a change in the wholesale price index number can be used to measure inflation as a change in the general level of prices. It is not acknowledged that the relative price structure of various items changes over time. However, because of variations in relative prices, the change in price level is really rejected; only the average price is taken into account when measuring the change.
2. **The fallacy of aggregation is present in macroeconomic behaviour:** The totality of individual behaviours makes up aggregate economic behaviour. But when seen as a whole, what holds true for one person may not hold true for the entire economy. Savings, for instance, is a personal virtue but a social evil. When someone saves more, they become wealthy. But together, everyone's savings won't just make society affluent. Then there is the thrift dilemma. A macroeconomic conundrum exists here.
3. **The general welfare of the economy is an issue in macroeconomics:** Individual welfare is ignored in favour of group welfare. For instance, even though national income is meant to represent the sum of all individual earnings, an increase in national income does not always imply an improvement in a person's welfare.

23.6 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Macroeconomics is the study of the aggregate behaviour of the economy as a whole.
2. Macroeconomics analysis explain the determination of total output and income of the economy at large and the behaviour of the general price level – referred to as inflation and deflation. In macroeconomics analysis, all these terms are assumed as given and behaviour of a single individual consumer or producer is exposed.

3. Macroeconomics study cogitate on several economic issues in aggregate order, presumed theoretically and in practice.
   - It is more realistic being related to facts.
   - It is policy-oriented subject.
   - It relates to computation, use and measurement of national income.
   - It deals with the phenomena of money, income and employment.
   - It is a dynamic science as against the microeconomics a static science.
4. Macroeconomics is subject to the following limitations:
   - It disregards internal heterogeneity.
   - It involves the fallacy of aggregation, such as:
     (i) Paradox of thrift, meaning savings are a private virtue but a public vice.
     (ii) It measures inflation on general term of price rise, ignoring the relative price differences of different growth.
   - It is basically concerned with general welfare, disregarding sectional benefits, variations of satisfaction and happiness.

23.7 SUMMARY

- Macroeconomics deals with economic affairs in aggregates.
- In macroeconomic analysis, distribution of income and relative price are assumed to be as given.
- Macroeconomics aims to clarify how total output/income and the overall level of prices in the economy are determined.
- Keynes's economic theory lies at the heart of Macroeconomic Analysis.
- Macroeconomics basically deals with computation, use and application of national income data.
- As such, macroeconomics pertains to the study of many facets and complexities of the economy.
- Macroeconomics study helps the understanding of economic events to the policymakers and to devise policies meant to enhance economic performance of the country in an admirable way.

23.8 KEY TERMS

- **Macroeconomics:** Aggregative economic behaviour.
- **Price Level:** Prices of goods, in general, measured through price indices.
- **Dynamic Science:** It follows/allows changes.
- **Investment:** Money spent by the firms in business.

23.9 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Trace the scope of macroeconomics.
2. Narrate the significance of macroeconomic analysis.
3. Describe the nature of macroeconomics.
4. Enlist the macroeconomic goals.
5. Discuss the theoretical and practical importance of macroeconomics.

Long Answer Questions

1. What is meant by Macroeconomics? Discuss its scope and importance.
2. Write an explanatory note on meaning and significance of macroeconomic analysis.

23.10 REFERENCES

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Chapter 24 The Role of Government in the Macro Economy

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Examine the *laissez-faire* policy
- Indicate the classical view on the role of the government
- Cite the Balanced Budget approval
- Review the ideas on functional finance
- State the government's responsibility toward satisfaction of social wants
- Examine the concept of welfare state
- Trace the Musgrave's view on human wants
- Give the reasons of the government intervention in the market economy.

Structure:

24.1 INTRODUCTION

Government *per se* is an institution in the structure of any modern economy whether it is capitalist, socialist, or a mixed economy. Therefore, to understand the nature, significance and problem of public finance, it is essential that the role of government should be carefully perceived.

24.2 ECONOMIC LIBERALISM: *LAISSEZ-FAIRE* POLICY

Adam Smith was a champion of *laissez-faire. Laissez-faire*, in essence, is the doctrine of individualism. *Laissez-faire* literally means 'Let live alone'. It suggests that there should be no intervention in the economic life of man, as individual is the best judge of his own interest and possesses prudence and initiative to look after his own satisfaction and welfare. The doctrine of *laissez-fair*e, in essence, implied economic liberalism as a natural force of harmony, peace, progress and general welfare. The natural social order functions according to the principle of private interest and good of everyone to work towards the general good. The general social good cannot be assured unless individual good is ensured. Social good is automatically achieved when there is no interference and individuals are free to attain their own good. Market mechanism, invisible hand, competition, efficient allocation of resources, and welfare are regarded as interrelated characteristics of the *laissez-fair*e doctrine.

Check Your Progress

1. What is meant by the *Laissez-faire* policy?

24.3 THE CLASSICAL VIEW ON FUNCTIONAL ROLE OF THE GOVERNMENT

Adam Smith viewed the State as an essential political organ in two ways: (*i*) as a socio-political institution and (*ii*) as an economic institution. He specified the following three important functions of the government:

1. **Protection and Defence:** It is the duty of government to protect the society from violence and invasion. Smith regarded defence as a very essential function of the state. He stressed that a standing army should be maintained by the government and expenses on this are justifiable. Maintenance of an armed force is consistent with the liberty and freedom of the people.
2. **Administration of Justice and Maintenance of Law and Order:** Another duty of the state, according to Smith, is the obligation to defend each and every member of society from wrongdoing or oppression by another member. To protect the people, government is very essential.
3. **Public Works:** According to Smith, it is the responsibility of the government to provide infrastructure facilities and public institutions which assist growth and development and which are unlikely to be provided by the private sector. These include: (1) Construction of roads,

bridges, canals, and harbors, etc.; (2) Educational institutions to educate youth and the entire population. Smith insisted on free public education; (3) Coinage system; and (4) Postal services.

4. **Essential Negative Functions:** Together with the above-mentioned positive economic functions of the government, Smith also specified certain negative functions. Government should, according to him, refrain from undue intervention that might hinder the smooth functioning of the market mechanism. He was against protection which restricts the growth of international trade. He also mentioned that government should not adopt a programme that supports industry at the expense of agriculture.
5. **Strengthening of Market Mechanism and Private Enterprise:** A market mechanism is the cornerstone of capitalism. Money plays a vital role in this regard. The government has to manage money to promote the economy. It has to maintain internal and external value of money to avoid disequilibrium in the economy and check the existing disequilibrium.

Check Your Progress

2. What is the role of the government endorsed in Adam Smith's opinion?

24.4 BALANCED BUDGET APPROACH: THE PRINCIPLE OF SOUND FINANCE

Classicists favoured the balanced budget requirement under the notion of sound finance for the following reasons:

(*i*) The government must borrow money if the budget is out of balance. The amount of loanable money that is available for private productive employment and investment activities decreases as a result of the government's market borrowings.

(*ii*) Unbalanced budgets imply a wide extension of state functions beyond the capacity of the government, which may invite irresponsible government action.

(*iii*) Inflation may be caused by unbalanced budgets because of significant and ineffective public spending.

(*iv*) On the other hand, a balanced budget eliminates economic uncertainty and encourages stability.

(*v*) Multiple imbalanced budgets suggest that the total amount of governmental debt will rise.

Briefly stated, a budget must be balanced annually and there should be a minimal difference between revenue and spending.

Check Your Progress

3. What is meant by the term Sound Finance?

24.5 THE WELFARE STATE CRITERION

But neo-classical economists understood the negative social implications of unchecked free business on the economy. Maximum social advantage is seldom ever reached under laissez-faire settings, according to Marshall. To achieve the greatest possible social welfare, it was maintained that cautious state action was required to increase income and public spending.

According to the welfare state criterion, it was agreed that the state should be in charge of correcting resource misallocation that is motivated by private profit.

24.6 FUNCTIONAL FINANCE: UNBALANCED BUDGET APPROACH

The entire foundation of public finance was reconfigured by the Keynesian revolution in economic thought, which also confirmed functional finance as a fiscal standard in contemporary times. Keynes took the initiative in developing the functional finance concept, although professor A.P. Lerner is credited with coming up with the idea. According to Lerner, the concept of evaluating fiscal policies based on how well they perform in the economy is known as functional finance.

As Professor Chelliah notes, this means that the functional concept of fixed policy implies that I the fiscal operations of the government should be conducted on a functional basis and that (ii) the budget need not always be balanced. It also means that public finance should not be considered as being induced solely by the need to secure social goods intended for collective consumption. In actuality, the orthodox rule of a balanced budget is completely opposed to the fiscal standard of functional finance. The functional finance norm recommends creating large budgets with a greater functional scope of government expenditure to support fundamental economic goals, such as (a) obtaining the best allocation and utilisation of limited resources at full employment, and (b) to establish economic stability and, in the greatest way feasible, create an equal distribution of wealth and income. According to Lerner, the following guidelines should regulate how the government acts and carries out its duties:

(*i*) The goal of the government's budget should be to promote price stability and full employment. The government budget need not be balanced in order to serve this aim.

(*ii*) In times of inflation, the government should only borrow money from the private sector if it is absolutely necessary to top up the excessive purchasing power from the public. This will relieve the pressure of excessive monetary demand.

(*iii*) Only during depressions may deficit financing, or printing more money, be used to cover public expenditures that exceed public revenue.

Check Your Progress

4. What is meant by Functional Finance?

24.7 GOVERNMENT IS RESPONSIBLE TO SATISFY SOCIAL WANTS

Public goods are the goods which satisfy collective wants or social wants in general. An important characteristic of public or social goods is that they are not subject to exclusion principle, in their use. That is to say, even if they do not pay for a public good, individuals cannot be barred from using it (which supports collective wants). One person's consumption does not preclude anyone else from doing so. As a result, the market economy may underproduce public goods or fail to provide them altogether. As a result, it becomes necessary for the government to take on the burden of funding public goods using tax dollars.

In private wants, the exclusion principle can work successfully. This cannot be the case with social wants; for, the satisfaction of social wants remains independent of the individuals contribution. For example, police services maintain internal peace for all, or a public health project intends to raise the general level of health of the area as whole. Unlike private wants, in the satisfaction of social wants, consumers' preference cannot be registered, so that market mechanism fails to work. Hence, it is very difficult to evolve any rule of thumb to effect optimum allocation of resources in satisfying social wants. It involves a considerable amount of value judgement and normative approach on the part of public authority in making provision for social goods. Since the payment part of social goods cannot be decided on the market basis, an arbitrary but rational method needs to be adopted to determine the supply of social goods. Apparently, budgetary provision is inevitable for their supply. The market economy may efficiently cater for private goods but it certainly cannot satisfactorily provide for public goods, since their demand is never revealed fully through the market mechanism and neither is it attributable to the effective application of the exclusion principle.

24.8 ESSENTIALITY OF GOVERNMENT INTERVENTION

There are several chances on uncertainty in business when the probabilities of outcomes resulting from specific actions are not known and cannot be predicted because of their subjective nature. Business expectations which determine marginal efficiency of investment or the expected rate of profitability in a business venture are basically based on entrepreneurial psychology; hence, uncertain. Therefore, in a market or free business economy, marginal efficiency of capital or investment is a dynamic phenomenon. Trade cycles are a feature of the market economy as a result of the private sector's erratic investment activity. There are phases of business expansion and contraction. The government intervention is thus needed for introducing anti-cyclical measures and creating economic stabilisation.

24.9 PROVIDING SOCIAL JUSTICE IN: INCOME DISTRIBUTION

The government in a capitalist economy has to provide social justice through appropriate fiscal policy. Besides progressive taxation, government has to incur

welfare-oriented public expenditure. The public spending must be allocated to improve real incomes of the poor. This can be done through:

(*a*) Provision of free education to the weaker sections.

(*b*) Provision of free medical care.

(*c*) Subsidised foodgrains at low prices to the poor.

(*d*) Subsidised housing.

(*e*) Subsidised clothing, etc.

Check Your Progress

5. Enlist the welfare-oriented mode of public spending.

24.10 PROMOTING GROWTH AND DEVELOPMENT

The government can promote economic growth in the following manner:

- By providing economic and social overhead facilities.
- By influencing the attitudes and course of action of the producers, consumers and the general public.
- By bringing about institutional, organisational and structural changes.
- By augmenting the supply and increasing the mobility of the factors of production.
- By controlling economic fluctuations.
- By controlling the supply of money.
- By promoting savings and investment through appropriate fiscal measures.
- By filling up the deficiency of effective demand.
- By direct participation in the public sector investment which stimulates private investment.
- By innovations the government can play the role of innovator through initial investments in undivided fields of industrialisation. Again, as in the Australian economy, for instance, economic growth can be fostered by a healthy competition between the private and public sector.

Check Your Progress

6. In what ways the government can promote growth and development of the economy?

24.11 CONSERVATION OF NATURAL RESOURCES AND MAINTENANCE OF ECOLOGICAL BALANCES

In market economies, private entrepreneur may recklessly exploit natural resources for making more and more profits. Industrial development without a proper check on localisation may result into increased pollution and distortion of ecological balances. When forest are destroyed for paper and wood, environmental

balance is ruined. The government has, therefore, to adopt a pragmatic and long-term conservation policy to save non-renewable and scarce resources. It has to implement policies to check the growth of industrial pollution. It has to see that industries have proper disposal so as to maintain ecological balance of the country. For example, wood cutting in the forests may be orderly and can be checked. Similarly, excessive private use of petrol may be curbed to conserve its stock.

24.12 ANSWERS TO 'CHECK YOUR PROGRESS'

1. *Laissez-faire* policy is the sacred doctrine of individualism presumed by the classical economists. It implied that the government should never intervene in the economic life of the people. It essentially endorsed the economic freedom and initiatives of the individuals.

   This policy was regarded as a natures force of harmony and welfare of the society.

2. The classical economist Adam Smith laid down the following functions of the government:
   - Main duty of the government is to protect the country's sovereignty from foreign invasion.
   - Provision of justice.
   - Maintenance of law and order.
   - Provision of infrastructure facilities such as roads bridges, educational institution – free public education, coinage system and postal services.
   - Curbing monopoly and encouraging competition in the market economy.
   - Legal provisions for the formulation of business enterprises.
   - System of price regulation and the efficient waiting of market mechanism to be facilitated.
   - To Smith, however, government should never endeavour in doing a business. Government has no business to enter into business.
3. Sound finance is the system favouring a balanced budget criterion in the course of budgetary exercise of the government for raising the finance to spend for fulfilment of its social functions toward peace, harmony and state sovereignty. By and large, the balanced budget approach suggests exact balancing of public revenue and public expenditure.
4. According to A.P. Lerner, the functional finance refers to the principle of judging fiscal operations of the government aiming at fulfilment of its avowed functions relating to ordering and stability of the country's economy attuned to obtain optimal allocation and efficient use of the productive resources, maintaining price stability and aiming at full employment of resources. It involves a deliberate action of unbalancing the budget.

- Though theoretical ideology would always favour a balanced budget approach in fiscal policy, in practice, on the functional base, the government budget may tend to be unbalanced in the interest of social welfare achievable through economic development.

5. The public spending is regarded to be welfare-oriented as directed in providing:
   (i) Free education to the weaker sections of the society.
   (ii) Free medical aid.
   (iii) Subsidised food items at lower prices to the poor.
   (iv) Subsidised housing for the poor.
   (v) Subsidised clothing to the poor.
6. The government can help in promoting growth and development of the economy through:
   - Providing economic and social overhead infrastructures.
   - Directing the attitudes and actions of the people on a socially desirable path.
   - Bringing institutional and organisational change.
   - Encouraging the mobility of labour.
   - Checking the business cycles. Controlling money supply.
   - Regulating the functioning of banks on a sound basis – checking frauds and mismanagement in the banking sector.
   - Undertaking public investment to fill up the socio-economic gap in the private-sector-oriented economy. Facilitating and promoting innovations towards the start-up of the digital economy.

24.13 SUMMARY

- *Laissez-faire* policy suggests let-live-alone policy.
- It implies economic liberalism.
- The classical motion favours a free capitalist economy unintervened by the government.
- **Say's law of markets:** Supply creates its own demand.
- **Sound finance:** the balanced budget approach.
- Lerner coined the concept of functional finance.
- Functional finance largely involves unbalanced budget aiming deliberately.
- Public goods are meant to satisfy collective wants.
- Public goods are the public wants that are being satisfied on the basis of the consumer choice, *e.g.*, subsidised low-cost economy.
- Social wants are equally meant to be satisfied by all the people in the country, *e.g.*, defence service, roads, etc.

- Capitalist system is inherently instable.
- Fiscal policy should be designed to as for basis of providing social justice.
- The government should function with policies towards ministry economic growth by facilitating industrial and structural advancement.
- The government should not usually intervene in the working of the market-oriented capitalist system.
- Public administration should be efficient and honest. Present Modi government in India is complemented an this criterion.
- *Laissez-faire* policy suggests the least government intervention in the function of the economy. It endorses the free enterprise economic system.

24.14 KEY TERMS

- **Economic Liberalism:** A natural force of harmony, peace, progress and general welfare.
- **Balanced Budget:** Government spending is strictly prescribed in accordance to the public revenue raised.
- **Functional Finance:** Government spending is meant to promote its basic socio-economic goals. So, budget need not be balanced as such.

24.15 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What do you mean by the *Laissez-faire* policy?
2. Give the reasons as to why the classical economists favoured/balanced budget approach for the government.
3. Why should the government assume the full responsibility of satisfying social wants?
4. State the Keynesian multiplier effect of compensatory public spending.

Long Answer Questions

1. State and explain the principle of sound finance.
2. State and explain the unbalanced budget approach: the principle of functional finance.
3. Explain the nature and provisions to satisfying merit and social wants.

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Chapter 25 The Components and Methodology of Macroeconomics

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Expose the meaning of closed and open economies
- Illustrate the working of degree of openness
- Explain forex market

Structure:

25.1 INTRODUCTORY: CRUCIAL VIEWPOINTS

- The science of macroeconomics is the sole of thinking on various issues to be tackled and allied emerging problems in the economy as a whole to be solved.
- In a democratic nation, since the state of the economy tend to affect each and every one, macroeconomic issues play a pivotal role in the political debate in the Parliament.
- Macroeconomic suggests how things are changing.

- Macroeconomic theories are constantly breeding in new shapes and provide some guidance for formulating economic policy to the people at home as decision-makers.
- Macroeconomics being a positive science, even though economists like to examine politically charged issue in the country, there has been evolving development of set of analytical tools: Terminology, Data, and a way of thinking, in order to address the concerning issues with a scientific objectivity of embracing and using them in practice.
- Economists also adopt models to underdeveloped world's economic set-up formulated by different nations.
- By and large, economic models are illustrative, by using mathematical terms in stating the functional relationships and requests among the variable, measuring their coefficients.
- There are two types of economic variables used in empirical terms:
  (i) Endogenous variables, and (ii) Exogenous variables.
- In Economic model seeking to explain a phenomenon through endogenous variables that may be changing.
- Exogenous variables refer to those model which is presumed as given.
- In short, economic models are meant to be simplified theories in showing the key functional relationships among the related economic variables.
- Macroeconomics touches many facts of the economy, such as:
  (i) Role of savings
  (ii) Process and significance of investments
  (iii) Economic growth and development of the country
  (iv) Unemployment and the action of Trade Union
  (v) Inflation affecting the rate of interest charged by the financial institution
  (vi) Phenomenon of exchange rates and the Balance of Trade
- In economic analysis, the perception of the macroeconomic models matters much.
- There are two kinds of the macroeconomic models: (i) Closed Economy Model and (ii) Open Economy Model.
- The methodology of macroeconomics is data-based. It involves collection of statistics pertaining to macroeconomic variables such as national income data, etc.
- Policymakers have their focus not only on total output of goods and services, but also devote their candid attention towards optimising the use of the resource through their rational allocation among the alternative uses for the betterment of the society.

25.2 CLOSED ECONOMY MODEL

Open economy macroeconomics (OEM) is a branch of economics pertaining to the fold of international economics. Since early 1990s, a leading development has taken place in this field which is termed as the new open economy macroeconomics (NOEM). In economics analysis, apparently, open economy model (OEM) is distinct from the close economy model (CEM). In macroeconomics, the theory of income determination is simplified under the assumption of a closed economy. In today's reality, however, the closed economy is a rare phenomenon. In modern times, most economies are open.

25.2.1 Closed Economy

There is no or very little economic interaction between a country and other countries in a closed economy. The external sector of the closed economy is just peripheral. For instance, prior to 1990s, India's external sector was just less than 2 per cent of the country's national income. In theoretical parlance, the national income identity of closed economy model is stated thus:

$$Y = C + I + G \quad ...(1)$$

where,

Y represents the country's national income,

C refers to consumption expenditure,

I relates to domestic investment, and

G implies government spending.

In a stricter sense, thus, external sector is assumed to be zero or disregarded as being marginal. The aggregate demand in a closed economy model is, thus, constituted by:

$C + I + G$.

A closed economy is somewhat isolated from international economic relations.

Check Your Progress

1. What is crucial for studying macroeconomics?

25.3 OPEN ECONOMY MODEL

An open economy refers to the economy comprising domestic plus substantial external sector. This means open economy is open to the foreign trade and investment with other nations on the global front. In open economy, the national income flows are determined by the domestic income as well as foreign incomes. The aggregate demand function of an open economy is determined by domestic plus foreign sector demand.

The national income identified for an open economy is stated as under:

$Y = (C + I + G) + (X - M)$

where, X = Export and M = Import

Alternatively, $(X - M) = NX$

Thus, NX = Net Export

Hence, $Y = (C + I + G) + NX$.

It follows that when net export earning is positive, it adds to the national income of the country. Positive NX also means trade surplus. So, national income increases to that extent. When NX is negative, it implies trade deficit. Trade deficit, thus, reduces the national income of the open economy to that extent. Fig. 25.1 represents the open economy model.

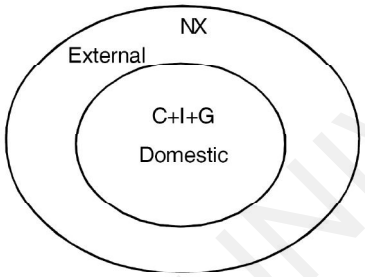

Fig. 25.1: Open Economy Model (OEM)

In open economy macroeconomics, the economic aggregates are looked upon in a wider term which includes in all of closed economy macroeconomics external sector economic relations of the country with rest of the world: capital movements, exports and imports, forex markets, exchange rates, foreign direct and portfolio investments. Open economy macroeconomics is essentially international macroeconomics as a part of international economics in a broader sense.

The New Open Economy Macroeconomics (NOEM) is an extension of the Open Economy Macroeconomics (OEM) addressed to the recently growing literature relating to the current economic financial issues and developments in the global arena. By and large, the NOEM is an attempt to overcome the limitations of the Mundell-Flemming model and seek to expose the reality with more clarity and strength.

In recent times, the capital flows and foreign investments have been accelerating at a faster rate than the growth of trade. Thus, the national income identity is perceived as:

$$Y = (C + I + G) + (X - M) + (FIO - FII)$$

Since, net export $(NX) = X - M$ and net foreign investment outflows $(NFI) = FIO - FII$, we may state:

$$Y = (C + I + G) + NX + NFI$$

NFI implies that capital outflows > capital inflows of the nation.

An open economy can experience three outcomes of international economic transactions:

- Trade Surplus
- Trade Deficit
- Trade Balance.

Under the condition of trade surplus:

$X > M$, $NX > 0$, Y or $GDP > (C + I + G)$, capital outflows > capital inflows. Thus, $NFIO > 0$.

Under the condition of trade deficit:

$X < M$, $NX < 0$, $GDP < (C + I + G)$, capital outflows < capital inflows. Thus, $NFIO < 0$.

Under the condition of trade balance:

$X = M$, $NX = 0$, $GDP = (C + I + G)$. Thus, $NFIO = 0$.

It follows, thus:

$NX = NFIO$

which means, under the national income identity, international flows of trade and of capital are equal under trade balance, for every international transaction is an exchange phenomenon?

Check Your Progress

2. Write a note on Open economy model.
3. How would you measure the degree of openness of the country?

25.4 DEGREE OF OPENNESS

The openness of country implies its involvement in the international trade. Trade restrictions like tariffs, quotas, and the like are absent from its trade policies. The degree of openness of a country is empirically measured in terms of the ratio of the country's total foreign trade (*i.e.*, Exports and Imports) as a proportion of its GDP. It is also referred to as trade ratio. Thus,

$DO = TR = 100[(X + M) / GDP]$

where, DO = Degree of Openness, TR = Trade Ratio, X = Exports Value, M = Imports Value, and GDP = Gross Domestic Product of the Country. The ratio is expressed in terms of percentage, thus, by multiplying it with 100.

25.5 THE SIGNIFICANCE OF MACROECONOMIC DATA: USE ORIENTATION

- The methodology of macroeconomics rests on empirical investigation in the collection information termed as economic data. Economic data, in modern firms, offer a systematic and objective source of drawing factual and statistical information. Today, most of the data are published by the government and also by the research organisations such as ICMI, FICCI, Merchant Chambers, World Bank, IMF and other agencies.
- Economics are using these statistics for the concerned economic studies assigned to them by the business organisations.
- Policymakers required socio-economic data in order to monitor the course of development and design policies.

- Data implies concrete facts stated in numerical terms coordinated in support of arguments, proofs, and convincing about certain matters produced/presented for discussion and action to the pursuance of a given task or a study.
- Macroeconomic methodology involves data confined to giving an understanding correlating to the 'stock' and 'flow' concepts.
- A stock is the quantity of a variable such as wealth, the amount of capital, government debt, etc. measured at a given point of time.
- A flow is the quantity of a variable over a period per unit of time. Quantity variables such as income and expenditure, the amount of investment, the government budget deficits is regarded as the flow in economic analysis.

Check Your Progress

4. Trace the significance of macroeconomic data.

25.6 INVESTMENT: WHAT IT REALLY MEANS IN MACROECONOMIC ANALYSIS?

- Investment made by a household in buying a bond, shares, house, etc. is an individual consideration. But, it does not imply the investment for the economy as a whole in the macroeconomic terminology.
- In macroeconomic analysis, investment refers to the creation of new capital.
- From the economic analysis point of view, investment in business comprises goods as capital goods. It contains the purchase of new plant and equipments by the business firm. Likewise, investment of the firm may also contain the buying for increasing the inventories.
- The following types of products and services are purchased by the government:
  - (i) Defence service – military equipments such as machine guns, tanks, war plane, etc.
  - (ii) Cements, bricks, etc. for the construction of roads, highways, etc.
  - (iii) Government servants' pays and parks.

25.7 FOREX MARKET

The money market in the financial centres includes the foreign exchange market as just one component. It is a system that allows for the buying and selling of foreign currency. A foreign exchange market is made up of middlemen as well as buyers and sellers of claims on foreign currency. It is not limited to a certain nation or region of the world. As a result of the world's financial centres coming together to form an unified market, the foreign exchange market is the market for a national currency (foreign money) everywhere in the globe.

Check Your Progress

5. What is Forex market?

25.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1.
   - Macroeconomic is a practice-oriented applied economic science.
   - Macroeconomic issues pertaining to the economy of the nation are usually debated in the parliamentary meetings.
   - Under democracy during election period, learned voters are keenly interested in evaluating the contesting political party's agenda relating to upliftment of the economy and welfare-oriented programmes in dealing with the burning issues such as poverty, unemployment, educational reforms, etc.
2. Open economy implies the composition of two economic sectors in a macro sense: (i) the domestic sector and (ii) the external sector.

   Domestic sector implies the aggregation of consumption, investment of the citizens within the national boundaries and the government spendings relating to the economy as a whole.
3. The nation's degree of openness (*DO*) can be evaluated on terms of TRADE RATIO. Thus: $DO = 100 [(X + M) / GDP]$, where X is the value of exports, M is the value of imports, and GDP is the gross domestic product.
4.
   - Macroeconomic data refers to use orientation of the statistics.
   - These statistics serve as the base of empirical economic analysis of the macroeconomic variables such as national income, population, unemployment, etc.
   - Macroeconomic data, as such, are being constantly used by the concerned researchers in the process of economic investigation and analysis.
   - Policymakers need socio-economic data for the rationally designed policies in dealing with concerned issues.
   - Data-driven theories are truly significant, than otherwise.
5. An arrangement for buying and selling foreign currency is known as the forex market, *i.e.*, US Dollars mostly or other currencies of some nations.

25.9 SUMMARY

- Macroeconomics is the study of the economy as a whole – explaining the issues of economic events and allied policies concerned.
- Economists in the study of macroeconomics are highly concerned with the working of exogenous and endogenous macroeconomic variables.
- Economic models are meant to convey the major functional economic relationships.

- Empirical collected economic data for the economy as a whole – State (such as GDP, National Income and Unemployment) and Population – demographic statistics are the kingpin for presumptions behind economic policies envisaged by the policymakers.
- In closed economy, there exists a domestic sector only.
- Closed economy is isolated from international economic relations.
- Open economy comprises domestic-cum-external economic sector.
- External sector comprises net export, *i.e.*, Export-Import.
- Foreign investment flows also to be considered in an open economy.
- National Income = Consumption + Investment + Government. Import + Net Export + Net Flows of Investment.
- Net flow of investment = Capital outflows – Capital inflows.

25.10 KEY TERMS

- **Data:** Statistical information of facts.
- **Stock:** Quantity of a variable measured at a given point of time.
- **Flow:** Quantity of the variable measure per unit of time period.
- **Investment:** Creation of new capital, as per the macroeconomic analysis.

25.11 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What do you mean by a closed economy?
2. What is meant by an open economy?
3. Indicate the significance of macroeconomic data.
4. What is meant by open economic model?
5. Trace the real meaning of investment as per the macroeconomic analysis.

Long Answer Question

1. Explain the meaning of with an illustration, the degree of openness.

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Chapter 26 National Income: Concepts and Methods of Estimation

Learning Objectives:

By the end of this chapter, the learners would be able to:

- Define national income
- Explain GNP and NMP
- Expose GDP and NDP
- Examine the relationship between national income and social-cum-economic welfare
- Define national income estimation
- Understand the Census of Product Method
- Appraise the Census of Income Method
- Indicate the conceptual and statistical difficulties involved in the process of national income measurement
- Pinpoint the importance of national income statistics
- Group the concept of black and green income

Structure:

26.1 INTRODUCTION

- National income essentially measures the concerning economic action of the entire nation.
- In economic analysis, national income is measured at least in two senses:
  - National Income at Market Price, and
  - National Income at Factor Cost.
- In short, National Product is simply calculated as National Income - National Expenditure.

26.2 THE MEANING AND DEFINITION OF NATIONAL INCOME

- "National income" refers to the country's overall income. The national income data is used to gauge the overall economic performance of the entire economy. In actuality, information on national income offers an overview of the overall economic activities of a nation. Realistically speaking, national income is the flow of products and services produced in an economy over the course of a year or another specific time period.
- Modern economy is a money economy. As a result, the nation's national income is expressed in monetary terms. Therefore, according to a national sample study, national income is: "money measures of the net aggregates of all commodities and services accruing to the inhabitants of a community during a specific period". National income is not a quantum. It is a heterogeneous whole. It represents the range of goods and services that a country produces over the course of a year in monetary terms.
- In short, national income is the value of goods and services produced during a given period counted without duplication.
- The term "national income" has been interpreted in national income accounting in one of three ways: (1) National Product, (2) National Dividend and (3) National Expenditure.

1. **National Product:** It comprises of all the commodities and services that the community produces and trades for money over the course of a year. It excludes non-compensated products and services like hobbies, housewife services, volunteer labour, etc.
2. **National Dividend:** It consists of all the monetary and in-kind revenues that accrue to the production components throughout the production of the national product. It symbolises the entire money flow that will exactly match the national product the economy produced for the year.
3. **National Expenditure:** This represents the entire amount of money the community spends on the goods and services (of all kinds, both capital and consumption) generated over the course of a certain year. The national spending represents the disposition of the national income, which is obviously equal to it in value because income is the source of expenditure, or National Expenditure Equals National Income.

- **The three forms of national income flow are thought of by modern economists:** Income, production, and outlays. National Product plus National Expenditure equals a country's income or dividend.

Check Your Progress

1. Define national income.
2. What is meant by national product?
3. How will you regard national income as a flow?

26.3 GROSS NATIONAL PRODUCT

- We total up all the commodities and services generated in a nation to determine its national income. This sum indicates the gross value of the final goods produced by the entire economy in a given year, often known as the gross national product (GNP). The term "gross" denotes the inclusion of the allowance for the depreciation of capital assets.
- Thus, the gross national product (GNP) can be described as the total market value of all finished goods and services generated in a given year. Raw materials, semi-finished goods, and other similar intermediate products are not included in the idea of final goods and services, which refers to finished goods and services that are ready for consumption by families and businesses. All sales to consumers, company investment costs, and all government spending are specifically classified as final goods.
- GNP can be calculated by adding the following in an open economy (an economy that participates in international trade):
    1. The total cost of all currently produced consumer products.

2. The total cost of all manufactured capital goods, also known as gross investment. Gross investment, as used here, refers to the growth in inventories as well as the gross output of buildings and equipment. As a result, it also includes depreciation or replacement allowances, which are provisions for the consumption of capital assets.
3. The value of government services as determined by how much money the government spends on various goods and services in order to provide particular services for the benefit of the business community.
4. The amount of net exports, or the difference between the country's total exports and total imports. This number could be either positive or negative.
5. The whole sum of foreign earnings. This is the gap between the revenue domestic investors gained from their foreign investments minus the income they paid to foreign investors for their investments.

Thus, GNP at market prices represents:

$$GNP = (C + I + G) + (X - M) + (R - P)$$

where C stands for consumer goods.

I stands for gross investment or capital goods.

G represents government services.

X represents exports.

M is for imports.

R represents for foreign income received, and

P is for foreign income paid.

- GNP is the fundamental social accounting metric for determining total production. It represents finished goods that are priced according to current market rates and are ready for consumption.
- Each finished good is multiplied by its price to calculate GNP. As a result, a good's relative price conveys its relative importance. Additionally, the GNP fluctuates along with price fluctuations. When there is inflation, the GNP grows purely as a result of higher prices. Therefore, we must convert a given GNP total from market prices to constant prices in order to determine the real GNP. The Gross National Product (GNP) serves as a gauge of economic output in a given economy. The following uses make up the final output that is included in the GNP: (1) Consumption, (2) Investment, (3) Government spending, and (4) Net exports.

26.4 GROSS DOMESTIC PRODUCT (GDP)

Without include net factor incomes received from overseas, the total value of the country's output of goods and services is what is referred to as the gross domestic product (GDP).

$GDP = (C + I + G) + (X - M)$. Market prices are used to measure this.

This is how GDP is calculated at factor cost: *GDP at market value* + $(S - T)$, where S stands for indirect taxes and T for government subsidies.

Check Your Progress

4. Indicate the composition of GDP.

26.5 NET NATIONAL PRODUCT (NNP)

- It alludes to the amount of the economy's net output for the entire year. NNP is calculated by subtracting from GNP the cost of capital asset depreciation or replacement allowance. In a symbolic manner:
  $NNP = GNP - D$, where, D = depreciation allowance.
- Unlike GNP, which is reported in terms of the current market prices, this value is calculated at constant prices. In actuality, the value of total consumption plus the value of community net investment constitutes net national product.
- What distinguishes the two terms, GNP and NNP? We have not accounted for depreciation, capital gains, or obsolescence in our definition of gross national product. Depreciation refers to the deterioration of production-related gear. Production equipment needs to be changed at some point in the future because, over time, their regular use renders them obsolete. In other words, it is necessary to continually replace fixed assets in order to maintain smooth and consistent production. In a similar vein, certain equipment ages and becomes obsolete.

Check Your Progress

5. How will you measure GNP and NNP?

26.6 GROSS DOMESTIC PRODUCT AND NET DOMESTIC PRODUCT

- Gross domestic product (GDP) is the phrase used to describe the monetary worth of the domestic gross output produced by a nation's citizens. The term "Gross Domestic Product (GDP)" refers to the total dollar worth of all final goods and services generated by a nation's citizens, excluding net foreign income. Thus,
  $GDP = (C + I + G) + (X - M)$, where C is the value of consumer goods, I is the value of investment goods, G is the value of government spending, X is the value of exports, and M is the value of imports.
- In a free market, the *GNP* is calculated by multiplying *GDP* by the value of net foreign income.

Therefore, GNP (in an open economy) = *GDP* + (*R* – *P*)
= (*C* + *I* + *G*) + (*X* – *M*) + (*R* – *P*)

However, in a closed economy, *GDP* = *GNP* = *C* + *I* + *G*
Depreciation (*D*) is subtracted from *GDP* to get Net Domestic Product. *NDP* is therefore equal to *GDP* minus *D*.

Check Your Progress

6. What is GDP and GNP?

26.7 CONVENTIONAL AND GREEN GNP AND NNP CONCEPTS

- In the previous sections, we have examined the concepts of GNP and NNP as conventionally adopted in practice.
- In the 21st century, however, the things have drastically changed with growing awareness towards macroeconomic analysis perceptions.
- As such, above with the traditional view, it is equally important for the academicians as well as policy makers to re-examine the conceptual ideas and estimations of GNP and NNP in creation and compilation of national income data.
- Global environment of the world needs to be protected from the pollution effect of growing industrialisation in the developed and developing economics.

26.7.1 Green GNP and NNP

- Manufacturing is the heart of the industrial sector of the economy, however, containing a danger of creating pollution in the environment, thus, adversely affects the health, longevity and the general well-being of the people in the urban areas as well as semi-urban and rural areas captured by the industrialisation move.
- In the conventional approach, the measurement of GNP and NNP is undertaken by deduction of assumed damaged caused in the production process of the industrial sector.
- Until recently, however, business used to ignore damage caused to the ecosystem. In reality, the damage done is strongly linked to deforestation and climate change — tuning the natural disasters reported under the growth of free capitalism.
- Sustainability in a real sense, however, demands that there is a need to go for reinvestment in natural capital with continuation of the economic prosperity. Failure to protect and reinvest in natural capital as green investment leads to destruction — the capitalism digging its own grave.
- In general, it should be emphasised that working with nature is more productive than working against it.
- Viewing in this sense, there is a need to redesign the conceptual ideas and measurement of GNP and NNP in the national income estimates, by

giving a due consideration to investments diverted towards the creation of natural capital, thus, measuring the Green GNP and Green NNP under the real perceptive. Business investments, thus, must include provision for the environmental protection and sustainability.

- Green GNP and NNP have to be measured out with due estimates of such provisions made towards environmental protection and sustainability of the economy from the likely damaged that might have been caused by the global warming. Pollution prevention is a major concern of any economy today. There is an urgent need for responding to environmental problems.
- Today, it is well recognised that being green is no longer a cost of doing business.
- Green is regarded as a catalyst for:
  (i) Constant innovation
  (ii) New market opportunity
  (iii) Creation of wealth and welfare in the society.
- Managers have to make double provisions towards environmental expenditure as a percentage of sales. Like customer care, environmental care is equally important.
- Sustainability vision implies:
  (a) Pollution prevention and (b) Clean technology.
- In short, in the estimation of Green GNP and NNP, attempts should recognise that:
  1. Pollution = Inefficiency
  2. Clean Technology = Green Sustainability

Check Your Progress

7. What is meant by Greening?

26.8 NATIONAL INCOME AND SOCIAL WELFARE

- Welfare in economics means economic welfare. It speaks about the fulfilment of desires contingent upon the use of products and services. Consumable products and services are dependent on the economic activities of a nation. The indicator of a country's economic activity is its national income. Therefore, national income is used as a gauge of the community's economic well-being.
- In terms of the overall standard of life of a community, the quantity of the national income can roughly represent the degree of economic welfare. Therefore, it is anticipated that as the national income rises, so will the community's overall economic well-being.
- But national income is a means though not the total means. Welfare is the end. Hence, just a rise in the means (the national income) may not necessarily imply the achievement of the end (the welfare).

- National income is a potential means for welfare. Actual welfare, however, depends on many considerations besides the national income.
- The level of economic welfare cannot be inferred just from the level of GNP or national income of a country. National income is not a very true or unfailing index of a country's economic welfare. This is because:
    1. National income does not figure the value of non-marketable services like those of housewives which go a long way in determining the family welfare of the people at large.
    2. National income does not account for leisure which is a contributory factor to human welfare.
    3. The production of dangerous consumer products like alcohol, cigarettes, and other items that compromise societal welfare is included in the national income.
    4. Welfare depends on the standard of living, which depends on additional aspects, such as the distribution of national income, the cost of living, etc., in addition to the amount of national income.

26.9 DISTRIBUTION OF NATIONAL INCOME AND WELFARE

Apart from the size of national income, its distribution is very significant in determining economic welfare. If increased national income is distributed equitably, then only welfare would increase, not otherwise. It means that the country's total economic welfare will be low if there is a high degree of inequality in the income distribution. The term distribution is interpreted in two senses: (1) Functional Distribution and (2) Personal Distribution.

Check Your Progress

8. Trace the relationship between national income and welfare.

26.10 METHODS OF ESTIMATING NATIONAL INCOME

26.10.1 The Census of Product Method or Output Method

This technique calculates the nation's output. The inventory approach is another name for it. According to this method, the gross value of output across several industries, including agriculture, trade and commerce, is calculated for the entire economy over the course of a year from the production census. The figure thus produced represents the GNP at current market rates. In using this method, it is necessary to take utmost care to avoid double counting. To prevent the risk of double counting when measuring GNP, economists have proposed two alternative approaches: (1) the final goods methodology and (2) the value added method.

1. **The Final Goods Method:** This technique of calculating GNP ignores all intermediary transactions and simply computes the final values of goods and services. The production of final goods, the last flow of output that

consumers buy, requires intermediate goods. As a result, the value of intermediate items is included in the value of ultimate output. Therefore, only final values related to the final demand of the customers should be reckoned in order to prevent double counting. For instance, the cost of wheat, flour, etc. is included in the price of bread. Here, wheat and flour are both considered intermediary items rather than serving the needs of the final customer. During the course of production, their values are paid up. The values of these intermediary items are concealed in the price of the finished good (bread). Therefore, double counting would result from accounting for intermediate products separately from accounting for final output value. The value of the finished product computation has been proposed as a way to prevent this.

2. **The Value Added Method:** In the "value added" technique, the value of GNP is calculated by adding the value added at each individual manufacturing stage that results in output in its ultimate form. One must carefully assess the value added at each stage of the production process to prevent double counting of intermediary items. Thus, we should exclude all the expenses of materials and intermediary items that were not generated at that step from the overall value achieved at that stage. Alternately, the value of the output should be reduced by the value of the inputs at a particular step. Even the cost of inputs bought from other companies or industries should be deducted. In a nutshell, the gross national product (GNP) is calculated as the entire value added by all the various production phases up until the final output is in the hands of the consumers to satisfy the final demand.

   For the census of products approach to yield an accurate estimate of the national income, the following safeguards are required.

   (i) We need to just include the final products in order to prevent double counting. The inclusion of raw materials and intermediary products would result in double counting and should be avoided.

   (ii) Farm products that farmers store for their own consumption should be assessed by guesswork and measured at the going market rates.

   (iii) Changes in pricing levels across the years must be considered when assessing output. It is common to speak to national income in terms of prices from a specific year.

   (iv) To determine the exact market worth of the products, indirect taxes that are included in the pricing must be subtracted. Similar to this, government subsidies offered to specific products should be taken into account while appraising the product.

   (v) Subtract the value of imports from the value of exports or foreign earnings.

26.10.2 Census of Income Method

This approach involves adding up the total of all monetary earnings, including wages, salaries, rent, and profits, that people and businesses in the nation received over the year. In reality, the majority of sources for income data include income tax returns, books of accounts, reports, published accounts, and estimates for low-income households.

It is believed that the following classification of revenues is thorough:

(a) Wages and salaries,

(b) Supplemental labour income (social security, etc.),

(c) Earnings of self-employed or professional incomes,

(d) Dividends,

(e) Undistributed profits,

(f) Interest,

(g) Rent, and

(h) Profit of state enterprises.

Transfer payments, such as gifts and subsidies, must be subtracted from the total factor income. Therefore, factor incomes less transfer payments equals national income.

The Factor Cost Method is another name for this approach. As a result, the total amount of a country's (factors') income distributed is equal to its national income, at factor cost. To this, net income from the foreign sector is added, which includes net income from abroad as well as net disparities between exports and imports. This method's symbolic representation is as follows:

$Y = \Sigma (w + r + i + \pi) + [(X - M) + (R - P)]$

where, w = wages, r = rent, i = interest and π = profits.

However, using this technique requires taking certain safety precautions:

1. All transfer payments (government and private), such as pensions, charitable contributions, and personal gifts, which do not reflect earnings from productive activities are not to be included. The same rule applies to transfer incomes like gambling winnings, lottery winnings, etc. Scholarships that students get are also transfer incomes and should not be counted.
2. All unpaid services, such as those provided by a housewife, must be disregarded. Therefore, only services that have been paid for should be listed.
3. Sales of existing property (including land) and financial investments like equity shares, etc., should be omitted because they don't increase the actual national income. Therefore, any capital gains and losses connected to wealth but unrelated to actual income ought to be disregarded.
4. Since direct taxation is essentially a transfer of income to the government, it should be deducted from gross income. Otherwise, it shouldn't even be

counted. Similar to this, government subsidies must be subtracted from the supported industries' profits.

5. Add the revenues from state enterprises, income from government-owned property, and unremitted gains from businesses.

26.10.3 The Expenditure or Outlay Method

On the expenditure side, national income is equal to the sum of investment and consumption. With this approach, we must:

(i) estimate consumer spending on both private and public goods and services,

(ii) the value of fixed capital and stock investments after taking into account any net positive or negative inventories, and

(iii) subtract the value of imports from the value of exports.

To express it in symbolic terms,

$$Y = \Sigma (C + I + G) + [(X - M) + (R - P)]$$

where, C = Consumption expenditure,

X = Export,

M = Import,

R = Receipts from abroad,

P = Payments made abroad,

I = Investment expenditure, and

G = Government purchases.

Check Your Progress

9. Define national income estimation.
10. Explain the value-added method of measuring gross national product (GNP).
11. How is national income measured under the census of income method?
12. State the expenditure method of measuring national income in symbolic terms.

26.11 PROBLEMS AND DIFFICULTIES FACED IN THE MEASUREMENT OF NATIONAL INCOME

The following sets of challenges will be faced by statisticians and economists when calculating national income: (*i*) conceptual and (*ii*) statistical or practical.

26.11.1 Conceptual Problems

The conceptual issue has to do with how and what should be included and excluded when measuring national income. The idea of national income would logically suggest that all production must be taken into account. But by definition, we only perceive things to have a price when they are traded for money. Conventionally, certain standards have been established for estimating national income based on the information that is available.

1. Produce from farms retained for personal consumption. These are to be counted as part of national income and are to be estimated based on a best guess and at the rate of the market price of sold agricultural goods.

   However, because there is no reliable assessment of their production, domestic poultry keeping output, vegetables grown at home or in terrace gardens, etc. are not included in national income.
2. Housewives' services should not be counted as part of national income because there is no market or price for the labour they perform for their own households. However, the cost of domestic helper services should be included in national income. Therefore, it follows that someone who marries his maidservant substantially lowers the national revenue.
3. Unpaid services are excluded from national income calculations.
4. Due to their indirect productivity, deference services must be accounted for in national income. Their value will be equal to the amount the government spent on deference.

26.11.2 Statistical Problems

There are statistical issues as well. Double counting must be avoided at all costs. Otherwise, the value of the country's output will be inflated. Again, if statistical data are compiled from a variety of sources, they may not be entirely dependable. The ability and effectiveness of the statistical personnel as well as general public collaboration are equally crucial for estimating national income.

The existence of a sizable, unorganised, and non-momentized subsistence sector in India, where the barter system still predominates for conducting transfer of products, poses a unique conceptual difficulty. A correct output value in this situation is exceedingly challenging. As a result, a sizable portion of India's national GDP is an educated assumption. Furthermore, statistical issues are considerably more serious in countries like India. Among them are:

1. Due to incomplete information about farm output in the subsistence sector, accurate and trustworthy data are insufficient. There are no real production data available for animal husbandry. As a result, output forecasts are based on conjecture. Additionally, cottage and small-scale industries do not disclose their production data. Local bankers going by the names of Sarafs, Shroffs, or Chettis do not provide accurate statistics, for example.
2. India is a vastly diverse country in terms of its regions. Thus, difficulties in estimating arise from diverse languages, customs, etc.
3. Indians don't seem to care about the official inquiries. Most of the time, they are also uncooperative.
4. Most statisticians lack training and are ineffective.

As a result, national income estimates in our nation are neither appropriate nor extremely precise. There is an error margin of at least 10%.

Check Your Progress

13. State the difficulties faced in the measurement of national income.
14. What is the use of National Income Data?

26.12 THE SIGNIFICANCE OF NATIONAL INCOME DATA

One could consider national income figures to be indices of a country's economic development. The pattern and rate of the country's economic growth could be inferred from a continuous series of annual estimates of national income. The underlying historical changes in the country's economy are clearly shown by the national income trend, which also predicts future patterns.

26.12.1 Per Capita Income

One key idea in relation to the national income is the *per capita* income. It is very useful in economic analysis. It is useful for measuring the country's economic standing – whether economically, it is an advanced or a backward country. According to UN Criteria, countries having a *per capita* income below 500 US dollars are classified as underdeveloped countries. Additionally, the increase in per capita income is used as a gauge of the nation's economic progress through time.

Since 1955, India's Central Statistical Organisation has produced estimates of the nation's gross domestic product and *per capita* income on a regular basis.

The average annual income per person in the nation is referred to as *per capita* income. It is calculated by dividing the country's total population by the national income. Thus,

$$\text{Per Capita Income} = \frac{\text{National Income}}{\text{Total Population}}$$

26.13 SECTORAL DISTRIBUTION OF NATIONAL INCOME

Sectoral distribution of national income shows the components of national product. It refers to national income of industrial origin. It explains the anatomy of the economic structure of the country. Thus, the various sectors of economic productive activity are related to the sectoral distribution of national revenue.

Different productive sectors in a modern economy are broadly classified under three major categories:

1. Primary Sector,
2. Secondary Sector, and
3. Tertiary Sector.

These three sectors together constitute an economy – the system of production.

The *Primary Sector* contains the fundamental productive activities which directly deal with nature to obtain raw materials in general. Cultivation is a production process involved in the primary sector of an economy. Cultivation

activity is confined to agriculture which includes farming, plantation, forestry, horticulture, animal husbandry, etc. Cultivation activity is referred to as "primary production", because it provides primary produce or raw materials. Similarly, extracting activities, such as fishing, mining, quarrying, etc. also belong to the primary sector.

For the break-up of the Net Domestic Product by industrial origin, India's primary sector is composed of:

(i) Agriculture;

(ii) Forestry;

(iii) Fishing; and

(iv) Mining and Quarrying.

The *Secondary Sector* is concerned with processing of raw materials into finished goods. It includes making of goods such as carpentry pottery, etc., activities of rural economy, of industrial, manufacturing factories, of refineries, hydroelectric projects, building construction, etc. of urban economy. Industrialisation is a major part constituting the secondary sector of the economy. Thus, the progress of any economy is dependent on the widening of this secondary sector, *i.e.*, industrial activities.

For the break-up of Net Domestic Product by industrial origin, the secondary sector is composed of:

(i) Manufacturing,

(ii) Construction Industry, and

(iii) Electricity, Gas and Water Supply.

The *Tertiary Sector* relates to the distributive activities and the productive services of all sorts. It, thus, refers to the provision of services of various types such as banking, insurance, transport, trading, etc., and those of professionals such as services of teachers, managers, clerks and other office workers, engineers, lawyers, doctors, musicians and others.

When production and exchange increase, the scope of these services is widened. Thus, tertiary services lie at the centre of the productive process but they originate from the growth of primary and secondary sectors.

For the break-up of the Net Domestic Product by industrial origin, India's tertiary sector is composed of:

(i) Trade, Transport, etc.,

(ii) Finance and Rural Estate, and

(iii) Community and Personal Services.

In a nature economy, a large part of national income is contributed by the tertiary and secondary sectors. Thus, industrialisation and service industries constitute the span of economic progress.

26.14 ANSWERS TO 'CHECK YOUR PROGRESS'

1. National income may be defined as the "money measures of the net aggregates of all commodities and services accruing to the inhabitants of a community during a period of time, usually, a year".
2. National product is a concept of national income accounting. It comprises of the things and services that the community produces and trades for cash over the course of a year.
3. National income on a flow is taking place in three forms:
   (i) Income, (ii) Output, and (iii) Expenditure.
4. GDP may be measured as follows:
   $GDP = (C + I + G) + (X - M)$
   where, GDP = Gross Domestic Product
   C = Consumption
   I = Investment
   G = Government expenditure
   X = Exports
   M = Imports value
5. $GNP = (C + I + G) + (X - M) + (R - P)$
   where, GNP = Gross National Product
   C = Consumption
   I = Investment
   G = Government expenditure
   X = Exports
   M = Imports
   R = Receipts from abroad
   P = Payments made abroad
   $NNP = GNP - D$
   where, NNP = Net National Product
   D = Depreciation Allowance
6. Gross Domestic Product (GDP) is the phrase used to describe the monetary value of all the production produced by the nation's citizens in its domestic economy.
   Gross National Product is what GNP stands for.
   GNP is calculated by multiplying GDP by net revenue from other countries.
   Thus, $GNP = GDP - (R - P)$
   where, GNP = Gross National Product
   R = Receipts from abroad
   P = Payments made abroad

7. Greening refers to the items relating to the protection of global environment and sustainability of development towards economic welfare. Essentially, business people since exploiting natural resource in the process of their production, it is their social responsibility to make provision also for the environmental protection through greening.
8. National income is a means to provide social welfare to an extent. National income and welfare have a close relationship, when there tends to be distribution on equity basis.
9. National income estimation gives a clear picture about the standard of living of the community.
10. In the value-added method, each level of production stage of output involved in the process of production of the goods and services which determines the value of the gross national product (GNP).
11. The total of all monetary earnings, such as wages, salaries, rent, and profits earned by people and businesses in the nation throughout the year, are aggregated in the "Census of Income Method."
12. The expenditure method of measuring national income may be stated in symbolic terms as under:

    $Y = \Sigma(C + I + G) + [(X - M) + (R - P)]$
13. There are conceptual problems and statistical problems faced in the process of measuring the national income.

    Conceptual problems arises on account of certain services rendered or product not exchanged in the market.

    For example, the household service of housewife has no price consideration, whereas farmer who kept some amount of the farm product for self-consumption have to measure through guess only. Unpaid services are not reckoned and national income.
14. National income data are very useful in economic analysis. It helps in knowing the country's economic growth progress on annual term. National income data on consumption indicate the average standard of living of the people in the country. Taxation authorities can project the tax yields by knowing the growth and distribution pattern of national income in empirical terms.

    Sectoral distribution of national income suggests the growth and significance of the economic sectors and classification of the economy as agricultural country or industrial nation.

26.15 SUMMARY

- Data on national income give a concise overview of a country's overall economic activity.
- The monetary value of all the commodities and services that the citizens of a nation generate and exchange in a given year is known as national income.

- A flow is the national income. It changes every year.
- The total product value of all finished products and services produced in a particular year is known as the gross national product (GNP).
- GNP minus Depreciation Allowances is known as Net National Product (NNP).
- Three techniques exist for calculating national income:
  (i) Output method,
  (ii) Income method, and
  (iii) Expenditure method.

26.16 KEY TERMS

- **National Income:** The total monetary worth of the goods and services produced in a nation over the course of a year.
- **GNP (Gross National Product):** The estimation of a nation's current annual total output.
- **NNP:** GNP – Depreciation.
- **Disposable Income:** Personal Income – Personal Taxes.

26.17 SELF-ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Define and explain the concepts:
   (a) National Income (b) GNP
   (c) GDP (d) $NNP_{(mp)}$
   (e) $NNP_{(fc)}$ (f) Depreciation
   (g) Capital consumption
2. Answer the following:
   (a) What are the methods of estimating national income?
   (b) Explain the income method of measuring national income.
   (c) Describe the output method of estimating national income.
   (d) What are the difficulties encountered in the measurement of national income?
3. Distinguish between:
   (a) Gross National Product and Net National Product.
   (b) NNP at market prices and NNP at factor cost.
   (c) GDP and GNP.

Long Answer Question

1. Explain the methods of measuring national income with illustration.

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