ECONOMICS

CLASS XI

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Foreword

In an economy, a problem that faces everyone is scarcity. The economic problem asserts that resources available are insufficient to satisfy all human wants and needs. Understanding economics allows people to find the most efficient way to allocate resources in conditions of scarcity. Economics is the study of allocation of scarce resources/ Economics is the science of scarce resources and how to use them efficiently.

This Economics curriculum has been developed ensuring components of 21st Century Competency based education- with strengthened assessment systems to ensure effective teaching-learning process. It is intended to help our learners acquire economic concepts, principles, theories, skills, and values nurturing them to be competent in the fast changing economic trends and explore the opportunities that lie ahead.

Rapid rates of GDP growth can bring about undesirable economic and social costs. In view of such issues, this curriculum has been channelized through the lens of philosophy of holistic path to development: Gross National Happiness, which aims to bring about a balance between the spiritual and the material wellbeing.

I would like to commend the good work done by our colleagues in the Royal Education Council and every individual who relentlessly contributed towards development of this book. It is my fervid aspiration that our learners reap colossal benefits of acquiring required economic knowledge, skills, values and attitudes.

Tashi Delek

Kinga Dakpa
Director General

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Chapter 1

Definitions and Subject Matter of Economics

Learning Objectives

1. Discuss the evolution of economic thoughts.
2. Explain micro and macro economics.
3. Differentiate between micro and macro economics.
4. Discuss interrelationship between micro and macro economics.

1.0. Introduction

Economics deals with the study of human behaviour in the light of production, distribution and consumption of goods and services. The basic function of economics is to study how individuals, households, organisations and nations utilise their limited resources to achieve maximum gain. Therefore, the study of economics provides insight into the allocation of limited resources to satisfy human wants. The field of economics is extensively encompassing and it is ever growing.

Thus, this chapter discusses the evolution of economic thoughts and the subject matter to understand the dynamism of the subject.

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YOUR REFLECTION!

1. What is your perspective on the subject?
2. Why do you like economics?
3. What is your expectation from the study of economics?

1.1. Evolution of Economic Thought

Economic questions are as old as humankind. It implies that the prehistoric men too must have faced the economic issues. Before 1890, Economics or Political Economy formed the part of other disciplines like logic, psychology and politics. During the ancient and medieval times, economics developed as a science of statecraft, because the mercantilists believed that wealth was of paramount importance as a means of making a powerful state.

Economics became a science of wealth more clearly at the hands of classical economists. Ever since then, economists have started defining the subject matter of economics somewhat differently, attributing to the dynamic nature. Figure 1.1 shows the evolution of different economic thought.

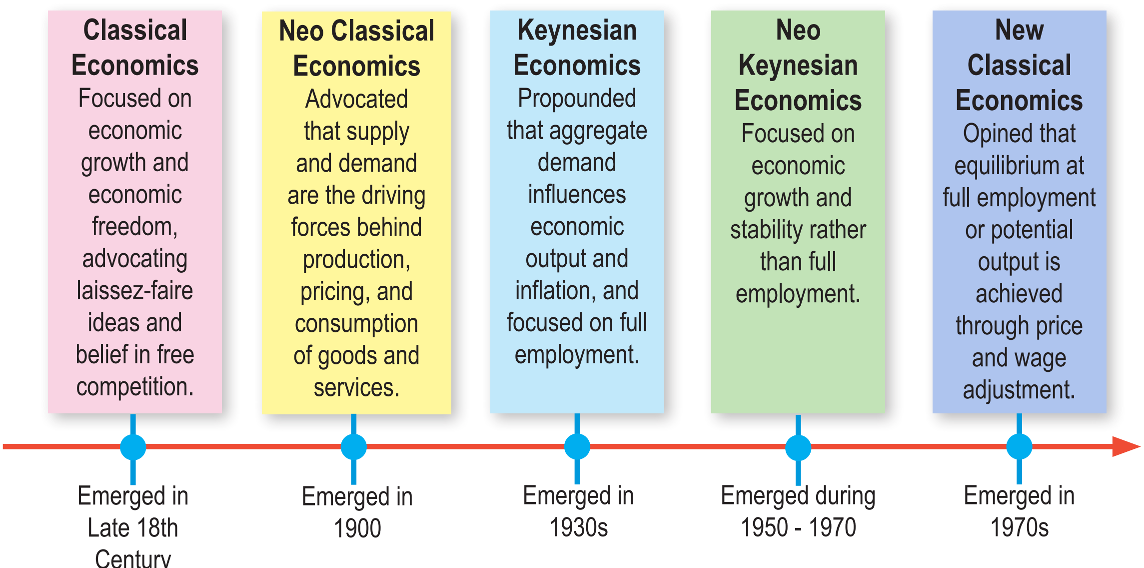

Figure 1.1 Evolution of Economic Thought

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1.2. Major Definitions of Economics

The nature and scope of economics has evolved over time due to change in social relationship, institutions and environment. As a result, several economists propounded different definitions of economics. The following are the four major definitions:

a. Wealth definition of economics- Adam Smith

Adam Smith's wealth definition emphasises on production, growth and distribution of wealth as the subject matter of economics.

Features of wealth definition:

i. Study of wealth:

Adam Smith places exaggerated emphasis on wealth and correspondingly, mentions that economics as a subject is purely the study of wealth. The wealth centered definition gives too much importance to the creation of wealth in an economy and believes that economic prosperity of any nation depends only on the accumulation of wealth. Priority is placed on wealth over human.

ii. Causes of wealth:

Economics, according to Smith deals with an inquiry into the nature and the causes of wealth of nations. The subject matter of economics seeks to examine causes which lead to an increase of wealth. Wealth of a nation may be increased by raising the level of production and export.

iii. A study on the nature of wealth:

The wealth definition of economics includes only material goods. Non-material goods such as services of teachers, doctors and engineers are not considered as wealth of a nation.

iv. Economic man :

A feature of wealth definition states that an economic man converges on his personal well-being and has only one goal. The economic man tries to achieve his/her self-interest by increasing their material gains through acquisition of wealth.

b. Welfare definition of economics-Alfred Marshall

Marshall opined that subject matter of economics is both the study of wealth and the study of mankind. He believed that the use of material requisites is necessary to achieve the wellbeing. Therefore, he treated economics as a social science.

Features of the welfare definition

i. Study of Mankind:

According to Marshall, economics is the study of man, which occupies the central place in the study of economics. He views that economics is concerned with wealth as means for existence, comfort and happiness for life.

ii. Study of ordinary business of Life:

The study of mankind in ordinary business of life refers to the income and spending activities of man. He states that economics is concerned with economic activities of man.

iii. Material welfare:

His definition encompasses the material part of human welfare, which is related to wealth. Economics studies those activities, that are closely connected with the attainment and the use of material requisites of wellbeing.

c. Scarcity Definition of economics-Lionel Robbins

Robbins definition of economics explains human behaviour in relation to unlimited wants and limited resources which have alternative uses.

Features of Scarcity definition

i. Unlimited Wants:

Human wants are not only large in number, but they tend to multiply over time. As one want is satisfied, another want crops up. Thus, it is not possible to satisfy all the wants. We have to make a choice between more important and less important wants.

ii. Scarce Means:

Resources are scarce in the sense that, the supply is limited as compared to their demand. For instance, labour is limited by the size of population and land is limited by area of the country. In view of the scarce means, only a limited quantity of goods can be produced.

iii. Alternative Uses of Means:

Resources can be put to alternative uses. For example, a piece of land can be used to produce wheat, rice or vegetables. The use of scarce resources in the production of one commodity prevents its use for any other commodity. Therefore, the society has to make a decision as of how to allocate the scarce resources in the production of different commodities.

iv. Choice:

The resources are scarce and can be used alternatively, however, the human wants are endless. Thus, people have to make a choice in allocating these resources for producing different commodities on the basis of their relative importance.

d. Growth oriented definition: Paul A. Samuelson

Samuelson's definition emphasises on how the scarce resources can be efficiently allocated in the creation of valuable goods and services so as to derive maximum satisfaction at present as well as in the future.

Features of Growth oriented Definition:

i. Comprehensive:

Samuelson's growth oriented definition incorporates welfare, scarcity and choice aspects. His definition is growth oriented as well as future oriented. Thus, it is considered as a comprehensive definition.

ii. Realistic Explanation of economic problem:

Samuelson's definition emphasises on economic problems that arises due to limited resources and unlimited human wants. Moreover, it focuses on efficient allocation and growth of resources over time to gain maximum satisfaction.

iii. Long-term perspective:

Samuelson's definition considers economic growth as integral part of the subject matter. The study of economic aspects like production, consumption and distribution of goods are not restricted to present day problem but it studies their future problems and solution as well. Thus, this definition widened the subject matter with dynamic aspect of economic growth and development.

iv. Universal Problem:

Growth definition is not only dynamic but also wider in its scope. He points out that economic problems exist in all types of economies; traditional or modern economies, and developed or developing economies. Thus, Samuelson views that the problem of resources allocation is a universal problem.

Learning Activity 1.1: *Analyzing major economic thoughts.*

Instructions:

1. In groups, critically analyze the major definitions of economics.
2. Present your analysis to the class.

Questions:

i) Identify the drawbacks of each economic thought.

ii) The wealth definition emphasizes on accumulation of wealth . Discuss its relevance to the Bhutanese economy by providing pertinent reasons to validate your view.

iii) Samuelson's definition of economics received a lot of credit as it was found to be more realistic compared to the earlier definitions. Confirm how credible is Samuelson's definition by relating it to the current economic scenario.

iv) Marshall's definition of economics highlights wealth as a means to achieve human welfare. Can we sustain our living depending primarily on material welfare? Justify.

v) Since the prehistoric days, constant efforts of satisfying human wants have been a challenge. Suggest some probable ways by which we can minimize our wants and achieve maximum satisfaction.

1.3. Subject Matter of Economics

In the modern approach of the study of economics, the subject matter of economics is categorized into two main branches: Microeconomics and Macroeconomics.

Microeconomics is a branch of economics that studies behavior of individual economic units and variables rather than the entire economy, such as individual households, firms and investors. The study of microelements of an economy is the subject matter of microeconomics. It explains how smaller economic units make economic decisions to obtain maximum levels of satisfaction. For example, it is concerned with how the individual consumer distributes its income among various products so as to maximize utility. Microeconomics is concerned with the theories of factor pricing, product pricing and economic welfare. The entire subject matter of microeconomics is illustrated in Figure 1. 2.

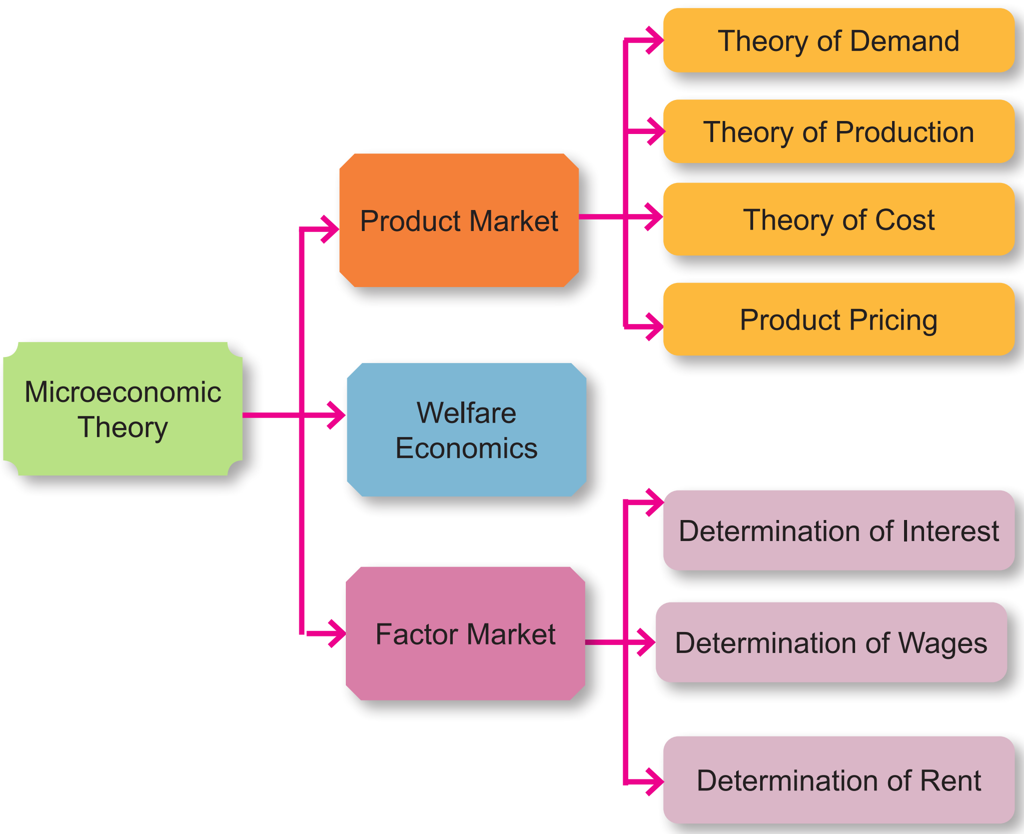

Figure 1.2: Subject Matter of Microeconomics

Macroeconomics is branch of economics that studies economy as a whole. In contrast to microeconomics, it deals with the economic behavior and performance of the entire economy. It studies aggregate economic variables such as aggregate consumption, national income, general price level, aggregate saving and investment. For example it studies causes and reasons for unemployment and fluctuations in general price level. The entire subject matter of microeconomics is illustrated in Figure 1.3.

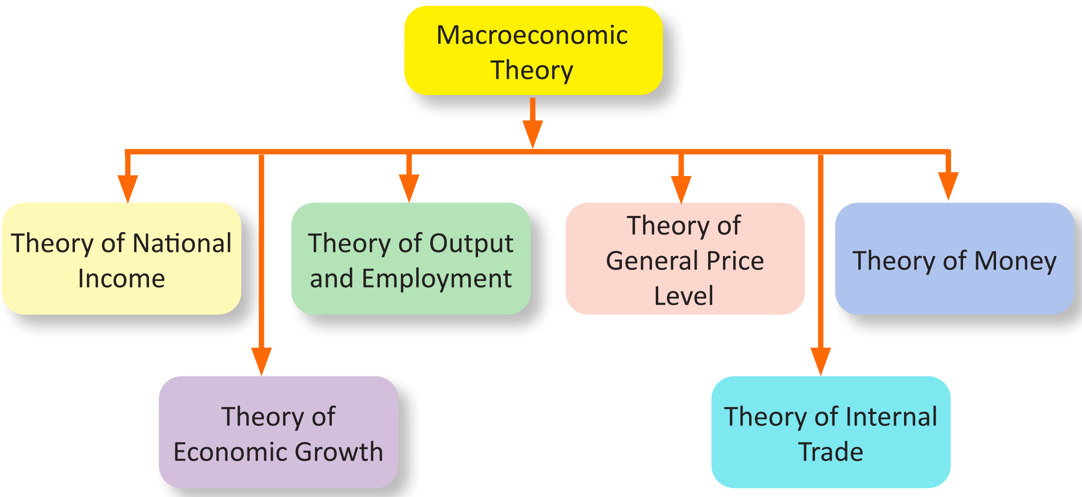

Figure 1.3: Subject Matter of Macroeconomics

Difference between Microeconomics and Macroeconomics

Table 1.3: Comparision between micro and macro economics

Key Areas	Microeconomics	Macroeconomics
Unit of Study	It studies the economic behaviour of individual economic units and variables.	It studies the economic behaviour of the entire economy (economy as a whole).
Parameter	Price is the basic parameter of the subject-matter of micro economics.	Income is the basic parameter of subject matter of macroeconomics.
Perspective	Microeconomics is the bottom-up view of the economy.	Macroeconomics is the top-down view of the economy.

Method of Study	Micro economics uses the technique of partial equilibrium analysis in which the assumption of "other things remaining same" is applied.	Macroeconomics uses the technique of general equilibrium analysis, i.e. the interdependence of different variables.
Focus of Study	It studies the equilibrium of individual demand and individual supply.	It studies the equilibrium of aggregate demand and aggregate supply.
Assumptions	It assumes that microeconomics variable are given.	It assumes that macroeconomics variables are given.

Interdependence of Microeconomics and Macroeconomics

The study of microeconomics and macroeconomics are complementary to each other. The variables of both microeconomics and macroeconomics are interdependent. To analyse microeconomic variables, one has to take account of macroeconomic variables and vice versa. For example, in order to study aggregate demand and supply, one should have a complete understanding of an individual demand and supply.

Review Questions

1. Construct a timeline of the evolution of economic thoughts.
2. Which definition of economics best explains the current economic scenario? Justify.
3. Explain how the study of macroeconomics is dependent on microeconomics.
4. Compare and contrast microeconomics and macroeconomics using relevant examples.

Chapter 2

Basic Problems of an Economy

Learning Objectives

1. Discuss the basic problems of an economy.
2. Illustrate opportunity cost through production possibility curve.
3. Explain the characteristics and assumptions of PPC
4. Illustrate the basic economic problems using PPC

2.0. Introduction

Every individual faces various economic problems in our day-to-day life. A household faces many decisions pertaining to division of household task, allocation of the resources among its members and choices on the purchase of various commodities available in the market. Similarly, society at large faces economic problem of limited resources which lead to production of limited amount of goods and services. Decision makers face trade-offs as the result of scarcity. This chapter focuses on the concept of scarcity and opportunity cost.

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2.1. Economic Problem

Scarcity is a universal problem relating to all the resources. Scarcity applies to every one irrespective of high and low income earners, developed and developing economies. Hence, every economy has to take the basic decision of making best use of the available resources in producing goods and services.

Human wants are unlimited but the resources available to satisfy these wants are limited. The fact is that total amount of goods and services that can be produced by using all the productive resources of an economy are insufficient to satisfy all the wants of the people. For example, an economy has to decide as to how much of the resources to be used for production of food and how much for the production of clothing. This is an economic problem for an economy. Thus, economic problem is the problem of allocating the limited resources for the production of alternative goods and services. In other words, economic problem is the problem of choice.

Cause of Economic Problem

The basic economic problem is the problem of choice. The problem of choice arises because of the following interrelated facts of life.

a. Human wants are unlimited

Human wants are multiple and they multiply over time. Goods and services are required to satisfy the wants of the people. However, the resources available to satisfy these unlimited wants are limited. Therefore, an individual must choose among the different wants. The same implies to economy as a whole.

b. Human wants differ in their urgency

Some wants are more urgent as compared to others. This implies that an individual has a scale of preference. For instance, individual 'A' may prefer milk over banana while individual 'B' may prefer banana over milk. More urgent wants are always preferred over less urgent ones. Moreover, the scale of preference of the consumers change over time. Thus, a consumer must choose between the various wants. So is the case with an economy.

c. Resources to satisfy human wants are limited

Resources are important for production as well as for the satisfaction of wants. The term ‘resources’ refers to anything that is required as an input for the production of goods and services. Since, the resources are available in limited quantity, it is not possible to produce all those goods, which can satisfy all the human wants. For instance, land is limited by the geographical boundary of a country and labour is limited by the labour force of a country. Similarly, time as a resource is limited to just 24 hours a day. Therefore, the problem of choice arises.

d. Limited resources have alternative uses

The problem of choice arises because the limited resources have alternative uses. For instance, a plot of land can be used for growing crops or construction of building. A student can use an hour of time for writing homework or watching TV. Similarly, a consumer can purchase clothes using Nu 5000 or save it in the bank and earn interest. Therefore, an economy has to choose between various alternatives which can be produced by using the same amount of resources.

2.2. Basic Problems of an Economy

Basic problem of an economy refers to those economic problems that are common and fundamental to all the economies. Every economy, be it a capitalist or a socialist economy has to face the following economic problems:

1. What to produce?
2. How to produce?
3. For whom to produce?
4. Problem of fuller utilization of resources
5. Problem of efficient use of resource
6. Problem of economic growth

Figure 2.1 Basic problems of an economy

a. What to Produce?

The first basic problem of an economy is to decide what goods and services are to be produced and in what quantities. This involves allocation of scarce resources in relation to unlimited human wants. Since resources are scarce, the economy has to make the decision and choose one good over the other depending on the goods and services desired by the citizen.

Figure 2.2: What to produce

b. How to Produce?

The next basic problem of an economy is to decide about the techniques or methods to be used in order to produce the required goods. The problem of how to produce is a choice between capital intensive and labour intensive techniques. This involves judicious selection of different factor combinations, techniques and other alternatives of production. The technique to be used also depends upon the type and quantity of goods to be produced. For producing capital goods and large outputs, sophisticated techniques are required. On the other hand, simple consumer goods and small outputs require comparatively simple techniques. Thus, those methods should be adopted which bring about an efficient utilisation of resources and increase the overall productivity in the economy.

Figure 2.3: How to produce

c. For whom to produce?

For whom to produce is the problem of distributing the total production of goods and services among its people. Who shall get to consume the goods and services produced in an economy? Should basic education be provided only to those who can pay for it? In other words, it's about how the Gross National Product of an economy is distributed among different individuals and families. From this, it is obvious that the goods and services can be acquired by those who can pay for it or those who have money income. Therefore, this problem is the problem of distribution of national income among the income earners.

What to produce, how to produce and for whom to produce are the three fundamental problems faced by all the economies. However, there are three other problems which are central problems to all the economies of the world. These problems are discussed below:

d. Problem of fuller utilization of resources

Although the resources are scarce in supply, most of the resources in an economy are left unemployed or underutilized. For instance, Bhutan has a capacity to generate 30,000 megawatt of hydroelectricity but it is not fully tapped yet. Unemployment of resources is not desirable for any economy as it is considered to be a waste. It implies that an economy has the capacity to produce goods and services but hasn't utilized the resources fully to achieve optimal production. Therefore, this problem is about creating an ideal situation where all the available resources are fully utilized.

e. Problem of efficient use of resources

Generally, efficient use of resources means avoiding wastage of resources. Resources are efficiently utilized if they are able to produce maximum output. Resources are inefficiently utilized if reallocation of these resources leads to increase in production of goods and services. For instance, if individuals trained for teaching are doing the job of care givers and those who are not trained in teaching are recruited as teachers, the output of education will not be satisfactory. In such a situation, the productivity can be maximized by reallocation of resources which can enhance efficiency. All economies today face this problem of misallocation or inefficient allocation of resources. Thus, efficiency is a situation when resources are put to their best possible use.

f. Problem of economic growth

The problem of economic growth is the problem of increasing the economy's capacity to produce goods and services over a sustained period of time. Every economy will want to increase its production of goods and services so as to increase its national income and consequently, the per capita income. However, to increase the economic growth rate, an economy must increase its production capacity through efficient allocation of resources, discovery of new resources, invention of new techniques of production or development of its human resources. Thus, all economies are concerned with how to increase its resources and efficiency of the resources. This is the problem of economic growth.

2.3. Opportunity Cost

"There are no such things as free lunch in life." Even if we do not have to incur expenses in terms of money, there are always some cost in the form of alternatives that we give up. Usually, to get something we like, we must give up something we equally like. Thus, making decisions require trading off one thing over another. Consider a student who must choose on how to spend her most valuable resource- her time. She can spend all of her time studying Economics, spend all of her time on Facebook or divide her time between the two. For every hour she spends studying, she must give up an hour she could spend on Facebook. Similarly, if government decides to build more roads by reducing the expenditure on construction of school buildings, then the cost of roads constructed can be expressed in terms of school buildings forgone.

Opportunity cost is the measure of cost in terms of alternatives given up, rather than in terms of money. The opportunity cost of anything is the next best alternative that is given up to produce a commodity. Opportunity cost arises because of the problem of scarcity of resources and the fact that resources have alternative uses. Therefore, while making decisions, decision makers should be aware of the opportunity cost of every possible action.

This concept of opportunity cost can be illustrated by using production possibility frontiers (PPFs),which provide a simple, yet a powerful tool to illustrate the effects of making an economic choice.

Learning Activity 2.1: *Calculating Opportunity Cost for better decision*

Instructions:

Study the hypothetical Table 2.1

Items	Government Job	Private Job
Salary	Nu 50000	Nu 80000
Allowances (Housing and salary)	Nu 15000	Nil
Salary Increment (Annually)	Nu 500	Based on individual performance
Career track	Promotion to next level of position every after four years	Based on proprietor's decision
NPPF membership	Yes	Based on individual preference
Facilities	Internet, computer peripherals and Conference halls	Internet, computer peripherals and duty car
Overseas training Opportunities	Often	Limited
Nature of work	Specialization	Multi-tasking

Questions:

i) Which job would you prefer based on the information provided in the hypothetical table? What would be the opportunity cost of your choice?

ii) What incentives would you suggest to each of the institutions to attract competent employees?

2.4. Production Possibility Curve

The production possibility curve is a curve which shows various possible combinations of two goods that can be produced by making full use of given resources and technology in an economy. It is also called as production possibility frontier or production possibility locus.

The concept of production possibility curve can be best understood with the help of Table 2.1.

Table 2.1 Production Possibility Schedule

Possible combinations	Unit of hydro electricity	Unit of food grains
A	0	21
B	1	20
C	2	18
D	3	15
E	4	11
F	5	6
G	6	0

Table 2.1 shows various possible combinations of hydro electricity and food grains that an economy can produce when all its available resources are efficiently utilised. Given the resources and technology, 1 unit of electricity and 20 units of food grains, 2 units of electricity and 18 units of food grains, and 3 units of electricity and 15 units of food grains can be produced at the combination B, C and D respectively. If the economy decides to produce only food grains, 21 units of food grains and no electricity can be produced at combination 'A'. On the other hand, if all resources are diverted to produce electricity, 6 units of electricity and no food grains can be produced at combination 'G'.

Any point on the production possibility curve represents the best combination of the two goods that the economy produces with the given amount of resources and technology. This schedule can be represented in the form of a graph, which is called as production possibility curve.

Assumptions of Production Possibility Curve

The production possibility curve is based on certain assumptions as follows:

1. The economy produces only two commodities.
2. The quantity and quality of resources are fixed but these resources can be transferred from one use to another.
3. The level of technology is assumed to be constant.
4. The resources and technology available are fully and efficiently utilised.

Learning Activity 2.2: *Exploring features of Production Possibility Curve*

Instructions:

Use Table 2.1 to derive the production possibility curve.

Questions:

i) Study the graph and state the properties of PPC.

ii) Why do you think PPC slopes downward from the left to right?

iii) Why is PPC concave to the origin?

2.5. Production Possibility Curve and Economic Problems

Every individual or a society is faced with the fundamental problem of choosing and allocating its scarce resources among alternative uses. The production possibility curve can be used to illustrate the problem of scarcity and choice and explain the nature of economic problems. Figure 2.4 illustrates the central economic problems.

In Figure 2.4, units of hydro electricity are shown on the X-axis and food grain is shown on the Y-axis. The curve AF is a production possibility curve showing different combinations of the Hydro electricity and food grains that a country can produce with the full and efficient utilisation of available resources.

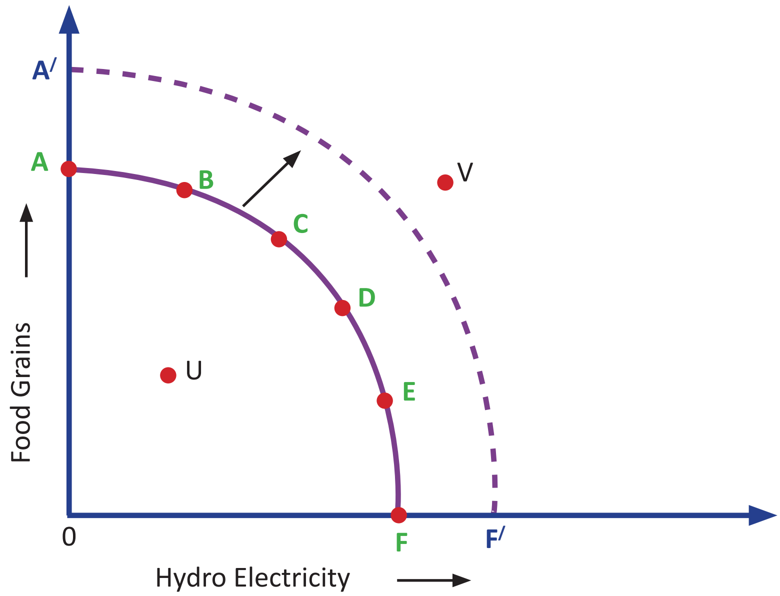

Figure 2.4: Economic Problems

The need to choose from the combinations A, B, C, D, E and F manifests the problem of choice. If an economy chooses combination B, it decides to produce more of food grain and less of electricity; and if it chooses combination E, it decides to produce more of electricity and less food grain. As economy's choice moves along the PPC, it represents the problem of what quantity of two goods to be produced.

Any point within the PPC like point 'U' is known as the point of under utilization of resources. If the economy operates on such points, it indicates the problem of full and efficient utilisation of resources owing to the factor inefficiency. Any point outside the PPC like point 'V' is called as unattainable point. The economy cannot operate on such point as it is unattainable with the available productive capacity. This shows the problem of scarce resources.

If the economy operates on points A, B, C, D, E and F it means the full and efficient utilisation of resources available. The outward shift of PPC from AF to A/F/ indicates economic growth.

Know More

Transformation Curve:

As we move from one combination to another on the PPC, it shows transformation of one good into another, not physically, but by diverting resources from one use to another. It indicates that we will have to sacrifice some units of one commodity to produce additional units of the other. Thus, the production possibility curve is also called the Transformation Curve.

Learning Activity 2.3: *Exploring features of Production Possibility Curve*

Instructions:

Use figure 2.4 to answer the following questions:

Questions:

i) Considering the current economic scenario, on which point of PPC do you think Bhutan is operating at the moment? Explain

ii) Which combination is most appropriate for Bhutan considering the economic need of the country? Why?

iii) Bhutan has witnessed a small but steady outward shift in its PPC over the years. What could be some of the plausible reasons?

iv) Problem of full and efficient utilisation of resources is a major problem in Bhutan. What remedies would you suggest to address the issue?

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Review Questions

1. Match the following

Column A	Column B
Points on the PPC	The problem of scarcity
Points out side PPC	The problem of choice
Points inside PPC	The problem of what to produce
Outward shift of PPC	The problem of full and efficient utilisation of resources
Movement along the PPC	The problem of economic growth

2. List TWO important feature of production possibility curve.
3. How can the individuals, firms and government use the concept of opportunity cost in decision making?
4. Can you imagine an economy without economic problems? Explain.
5. Scarcity is the root cause of all economic problems. Justify the statement using relevant examples.

Chapter 3

Demand and the Law of Demand

Learning Objectives

1. Discuss demand with an example.
2. Illustrate the law of demand.
3. Examine the factors affecting demand.
4. Analyze exceptions to the law of demand.
5. Differentiate between shifts of demand curve and movements along the demand curve.

3.0. Introduction

The concept of demand and supply is fundamental in the study of Economics. In the market, the forces of demand and supply interact to determine prices. The theory of demand explains the behavior of consumers in relation to price and commodities. This chapter focuses on the demand side of the market and examines the behavior of consumers.

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3.1. Concept of Demand

In Economics, demand is not just a mere desire but an effective desire backed by the willingness to purchase and ability to pay for a commodity. Thus, demand for a commodity is the quantity of the commodity that a consumer is willing and able to purchase at a particular price during a given period of time. For example, a consumer demands 2 Kg of apples at Nu 100 per Killogram in a week.

Individual Demand

Individual demand is the demand of a consumer or a household. It represents the quantity of a good that a consumer or a household would buy at a given price during a specific period of time.

Market Demand

Market demand is the aggregate of all the individual demands. It represents the quantity of a good that all the consumers or households would buy at a given price during a specific period of time

3.2. Law of Demand

The law of demand explains the relationship between price and quantity demanded of a commodity. It states that, other determinants remaining constant (ceteris paribus), the quantity demanded of a commodity increases when its price falls and decreases when its price rises. Thus, the law of demand shows an inverse relationship between the price and the quantity demanded of a commodity.

Assumptions of Law of demand

The law of demand is based on the assumption of ceteris paribus. The demand for a commodity depends not only on its price but also on many other factors. It assumes that the other factors influencing demand remains constant.

1. Income of the consumer do not change
2. Price of the related commodity should remain unchanged
3. Tastes, habit and preferences of the consumers do not change
4. Size of population remaining constant
5. Consumer's credit availability should remain constant
6. Government policy remaining same

Demand Schedule

Demand schedule is the tabular representation of law of demand. It shows different quantities of a commodity that would be demanded at different prices during a given period. There are two types of demand schedule: individual demand schedule and market demand schedule.

a. Individual Demand Schedule

Individual demand schedule is a tabular representation which shows various quantities of a commodity that would be purchased at different prices by a household during a given period. Table 1.1 shows a hypothetical demand schedule for good X.

Table:3.1 Individual Demand Schedule

Price of good X (Nu per Unit)	Quantity demanded (Unit per week)
2	50
4	40
6	30
8	20
10	10

b. Market Demand Schedule

In a market, there are large number of consumers with different individual demand schedules. A market demand schedule is sum of all the individual demand schedules. It represents various quantities of a commodity that all the consumers are willing to purchase at different prices during a given period. Table 3.2 shows a hypothetical market demand schedule for good 'X'.

Table 3.2 Market Demand Schedule

Price of good X (Nu per Unit)	Quantity demanded by consumer A (Unit per week)	Quantity demanded by consumer B (Unit per week)	Quantity demanded by consumer C (Unit per week)	Total Market demand (A+B+C) (Unit per week)
2	50	100	40	190
4	40	80	35	155
6	30	50	20	100
8	20	30	15	65
10	10	20	8	38

Demand Curve

The law of demand can be represented in the form of a curve using demand schedule. Demand curve depicts different quantities of a commodity that would be demanded at different prices during a given period. The demand schedule given in Table 3.1 can be represented in the graphical form as shown in Figure 3.1.

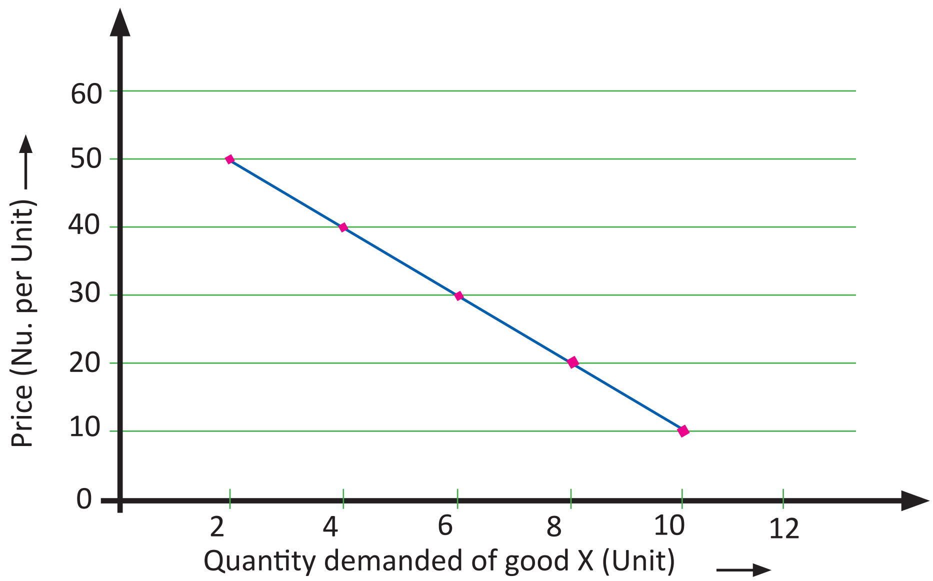

Figure 3.1: Individual Demand Curve

In Figure 3.1, X- axis represents quantity demanded and Y- axis represents price of a good. The graph shows that the decrease in price leads to increase in the quantity demanded and increase in price leads to decrease in the quantity demanded. Therefore, the demand curve slopes downward from left to right.

Learning Activity 3.1: *Illustrating demand schedule and demand curve*

Instructions:

1. Create an individual demand schedule of any good for consumer A and consumer B and derive the market demand schedule.
2. Draw individual demand curves and then derive the market demand curve using the schedule that you have created

Questions:

i) Differentiate between individual demand curve and market demand curve.

ii) Is your demand curve linear or non-linear?

iii) Under which situation do you think the demand curve could be non- linear?

3.3. Determinants of Demand

To further understand the concept of demand, it is essential to know the various factors that determine demand for a commodity. Some of these factors are :

a. Price of the commodity

Price is one of the important factors that influence the quantity demanded for a commodity. Generally, when the price of a particular commodity increases, the quantity demanded for that commodity decreases; when the price of that particular commodity decreases, the quantity demanded for that commodity increases. Therefore, the price of a commodity is inversely related to the quantity demanded.

b. Income of the consumer

Usually, when the income of a consumer increases , the demand for a commodity increases and vice versa. Therefore, there is a direct relation between income of the consumer and the quantity demanded. However, this relationship may not be applicable to all categories of goods. Based on the relation between income of the consumer and quantity demanded for a commodity, the goods are categorized into three types:

i. Normal goods

Normal goods are those goods for which demand increases with the increase in the income of the consumers and the demand decreases with the decrease in income of the consumers.

Therefore, there is a direct relationship between income of a consumer and demand for normal goods .

ii. Inferior goods

Inferior goods are those goods for which demand decreases with the increase in the income of the consumers and the demand increases with the decrease in income of the consumers.

Therefore, there is an inverse relationship between income of a consumer and demand for inferior goods.

iii. Inexpensive goods of necessities:

Inexpensive goods of necessities are those goods for which demand remains same irrespective of changes in the income of the consumers. In case of inexpensive goods of necessities, the demand is insensitive to change in the income level of the consumers.

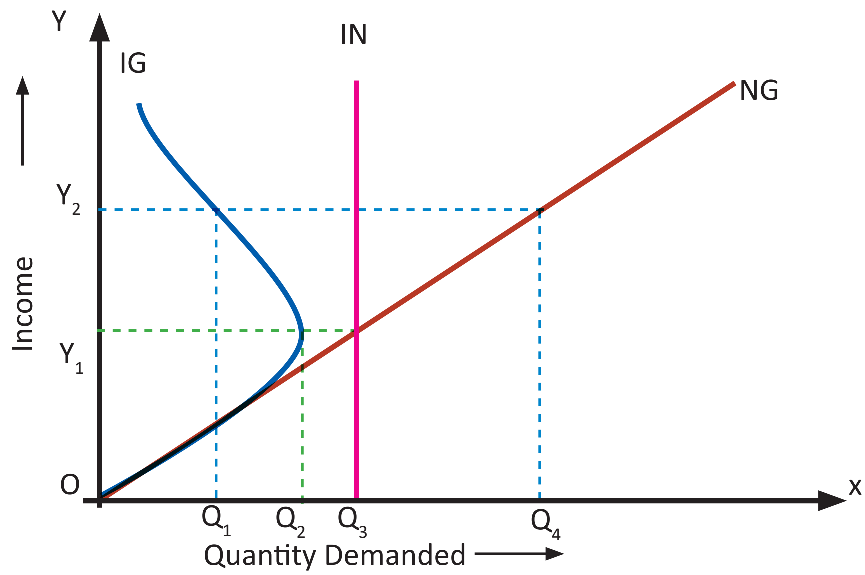

Figure 3.2: Relation between income and demand

In Figure 3.2, at OY_1 level of income of a consumer, the demand of a normal good is OQ_3; the demand for an inferior good is OQ_2 and that of inexpensive good of necessity is OQ_3. With an increase in income of the consumer from OY_1 to OY_2, the quantity demanded of normal good increases to OQ_4; the demand for inferior good decreases to OQ_1 and that of inexpensive good remains same at OQ_3.

c. Consumers' tastes and preferences

The consumers' tastes and preferences also determine the quantity of commodity demanded. The change in time, fashion, development, and the lifestyles of the people leads to change in the tastes and preferences of the consumers. As a result of change in tastes and preferences, the quantity demand for the commodity will change. If consumers' tastes and preferences is in favour of a commodity, the demand for the commodity will increase.

d. Price of related goods

The price of related goods also determines the demand for a commodity. Related goods are of two types:

i. Complementary goods

Complementary goods are those goods which are used jointly or consumed together. Complementary goods adds value to one another. As the price of complementary good decreases, the demand for particular good increases and vice versa. Therefore, there is an inverse relation quantity demanded of a good and price of it's complementary good.

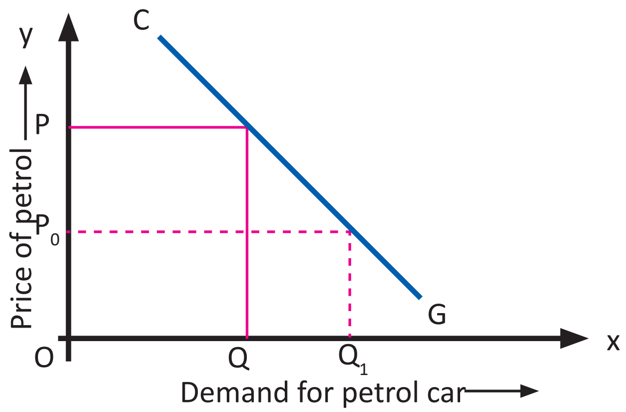

Figure 3.3: Complementary Goods

In Figure 3.3, X axis represents quanity demanded for petrol car and Y axis represents the price of petrol. The downward sloping CG curve represents the inverse relationship between price and quantity demanded for complementary goods.

ii. Substitute goods

Those goods which have the same purpose and can replace the use of another goods. There is direct relation between the price of substitute good and of demand of a particular good. AThe demand for a particular good increases the price of its substitute good increases and vise versa.

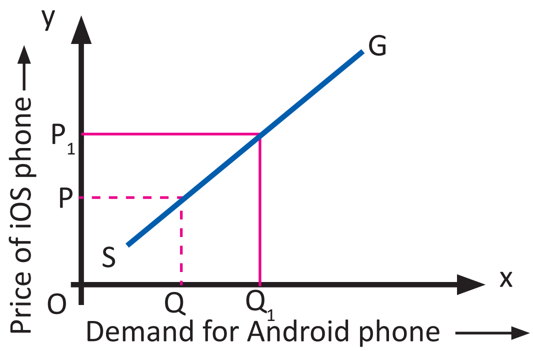

Figure 3.4: Substitute Goods

In Figure 3.4, X axis represents quanity demanded for Andriod phone and Y axis represents the price of iPhone. The upward sloping SG curve represents the direct relationship between price and quantity demanded for substitute goods.

e. Size of population

Demand for the commodity depends on the size of the population of an economy. The size of the population is directly related to the quantity demanded for the commodity. The larger the size of the population in an economy, higher will be the demand for the commodity and vice versa.

f. Government Policy

The government uses different policies to regulate the economy. These government policies will also determine the quantity demanded for the commodity. When the government provides subsidies and incentives, the price of the commodity will decrease leading to increase in quanity demanded. On the other hand, when the governemnt imposes taxes on the commodity, the price of the commodity will increase leading to a decrease in quantity demanded.

3.4. Reasons for Downward Slope of Demand Curve to the Right

The law of demand shows an inverse relation between price and the quantity demanded for a commodity. The reasons for the downward slope of demand curve from left to right are :

a. Substitution effect

The change in the quantity of demand for a commodity due to change in its relative price is known as susbstitution effect. When the price of a commodity decreases, price of its substitute remaining same, the demand for that particular commodity will increase as it becomes relatively cheaper. On the other hand, when the price of a commodity increases, price of its substitute remaining same, the demand for the commodity will decrease as it becomes relatively expensive. For example, tea and coffee are substitute goods. If the price of tea falls, price of coffee remaining same, demand for tea will increase as it is relatively cheaper than coffee. Thus, the demand curve is sloped negatively.

b. Income Effect

The income effect is the change in quantity demanded for a commodity due to change in the real income of the consumer as a result of change in the price of the commodity. When the price of the commodity falls, the consumers can demand more quantity of the commodity as the consumer's purchasing power increases. For example, Pema has allocated Nu 300 to purchase butter and she is able to purchase 1 kg of butter at Nu 300 per Kg. Suppose the price of butter falls to Nu 100 per Kg. She can now purchase 3 Kg of butter at Nu 300, as her purchasing power has increased by Nu 200.

It is clear from the example that as the price of a commodity falls, the real income of the consumer increases as a result of which the quantity demanded for the commodity increases.

c. Law of Diminishing Marginal Utility

The law of diminishing marginal utility states, with the increase in the consumption of a commodity, the additional utility derived from comsuming every additional unit of the commodity declines. When the consumer consumes the first unit of the commodity, the marginal utility derived from it will be high. As the consumer increases the consumption, the marginal utility derived will decline and further become zero and negative. Therefore, the rational consumer will be willing to buy a larger quantity only when the price decreases as the utility from additional unit declines.

d. Several uses of a commodity

There are some commodites which can be put into number of uses. When the price of such a commodity increases, it will be used only for most important uses and its demand will fall. On the contrary, with the fall in price it will be put into various uses and its demand will rise.

For example, electricity has several uses. When the price per unit is high, the quantity

Learning Activity 3.2: *Analyzing the determinants of demand*

Instructions:

1. In a group, choose a commodity and explore the factors determining the demand for that commodity other than the ones discussed in the textbook.
2. Identify some goods that are substitute and complementary to the chosen commodity

Questions:

i) List and explain how each factor influences the demand for a commodity.

ii) Cite an example each of a commodity that is substitute and complement to the commodity you have chosen and explain how change in price of each good influences the demand for the commodity.

iii) Is the commodity that your group has chosen a normal, an inferior or an inexpensive necessity? Why?

iv) Is it good to demand too much of goods and services? Why?

demanded falls as it is used only for important purpose. But when the price of the electricity falls, the quantity demanded will increase as electricity will be used for various purposes.

3.5. Exceptions to the Law of Demand

Law of demand holds true in most of the cases. However, there are cetain cases in which the law may not operate. At times the consumer will demand more quantity at higher price causing the demand curve to slope upwards.

a. Future Price Expectation

If consumers expect a rise in the price of a commodity in the future, the quantity demanded for the commodity will increase even at a higher price. On the other hand, if consumers expect fall in the price of a commodity in the future, the quantity demanded for the commodity will decrease at present.

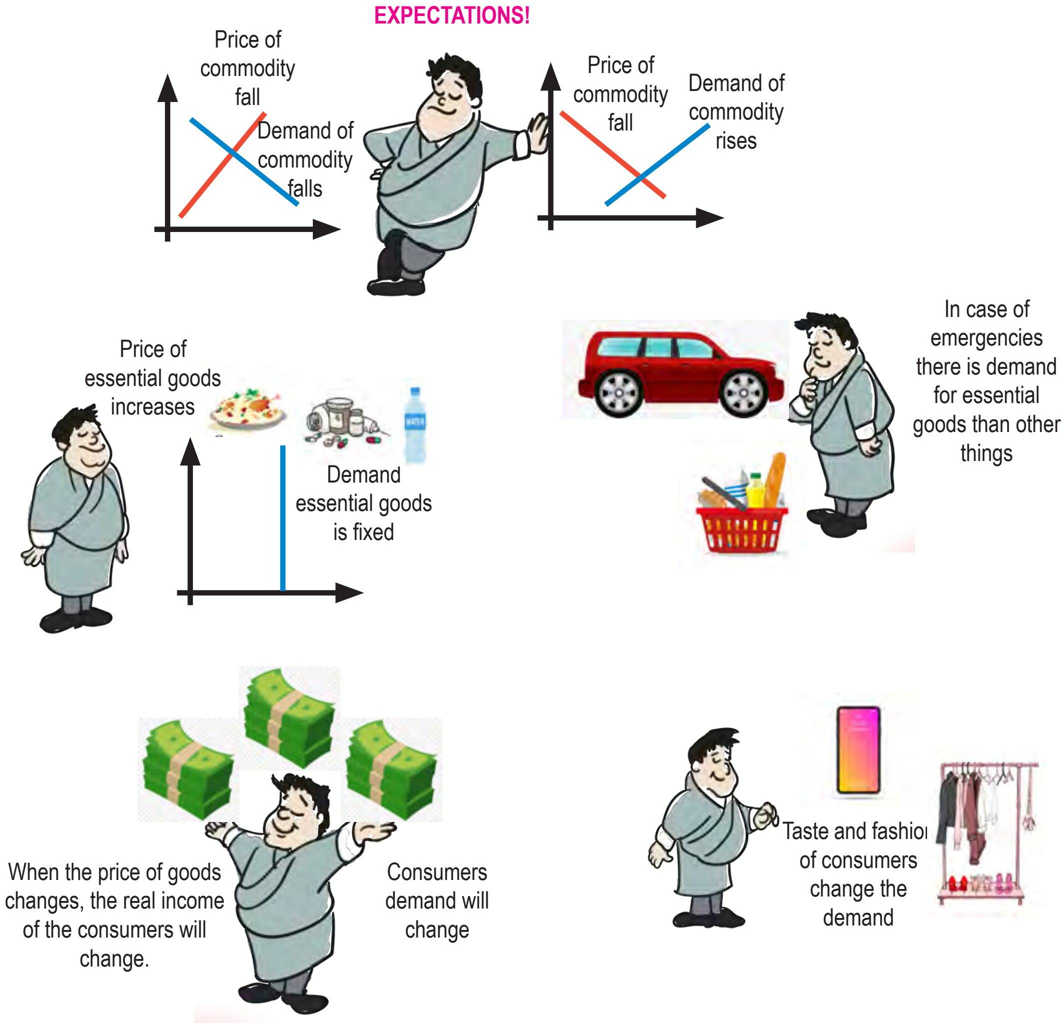

Figure 3.5: Exceptions to the law of demand

b. Highly Essential Goods

Goods such as food, water, medicines are very necessary and essential for survival. The demand curve for these essential goods will be vertical, as the quantity demanded for the commodity will be fixed even with the changes in their price. For example, in our daily life we require only certain quantity of salt. If the price of salt falls, we don't demand more quantity of salt and if its price increases we will not reduce the quantity of salt. Hence the quantity demanded for the essential goods do not follow the law of demand.

c. Giffen Goods

Giffen goods are a type of inferior goods on which the consumers spend a large part of their income and demand for which falls with fall in price. Giffen goods was named after Scottish Economist Robert Giffen as he was the one who pointed out this phenomenon for the first time. In case of such goods, the law of demand is not applicable. Mostly the people with low income demand more of these goods. When the price of such goods falls, the real income of the consumers will increase. Thus, consumers will demand less of such goods as they can afford to buy superior goods. On

Learning Activity 3.3: *Exploring exceptions to Law of Demand*

Instructions:

1. With reference to the exceptions to law of demand given in Figure 3.5, explore other exceptions to the law of demand in the Bhutanese context.
2. Elaborate on any three situations where the law of demand may not operate in the Bhutanese context.
3. Some consumers are of the belief that the higher the price, the better the quality of product; the lower the price, the inferior the quality of product. What is your view on such behaviours?
4. Articles of snob appeal are those items in our societies which are consumed to reflect the social status of the consumer.

   i) Examine how such consumption habits could impact the Bhutanese community.

   ii) Suggest plausible measures to check the negative impact of such consumption habits.

the other hand, if the price increases, the real income of the consumers will decrease leading to an increase in quantity demanded. This happens because they cannot afford to purchase the superior good because of decrease in their purchasing power.

3.6. Movement along the Demand Curve: Change in Quantity Demanded

The movement along a demand curve takes place when there is a change in the price of a commodity, assuming that all other determinants remain the same. This movement takes place in two forms:

a. Extension of Demand:

Other factors remaining the same, when the quantity demanded for a commodity increases due to decrease in its price, it is called expansion of demand. It represents a downward movement along the demand curve. In Figure 3.4, the movement downward from point B to point C represents the extension of demand.

b. Contraction of Demand:

Other factors remaining the same, when the quantity demanded for a commodity decreases as a result of increase in its price, it is called contraction of demand. It represents an upward movement along the demand curve. In Figure 3.6, the movement upward from point B to point A depicts the contraction of demand.

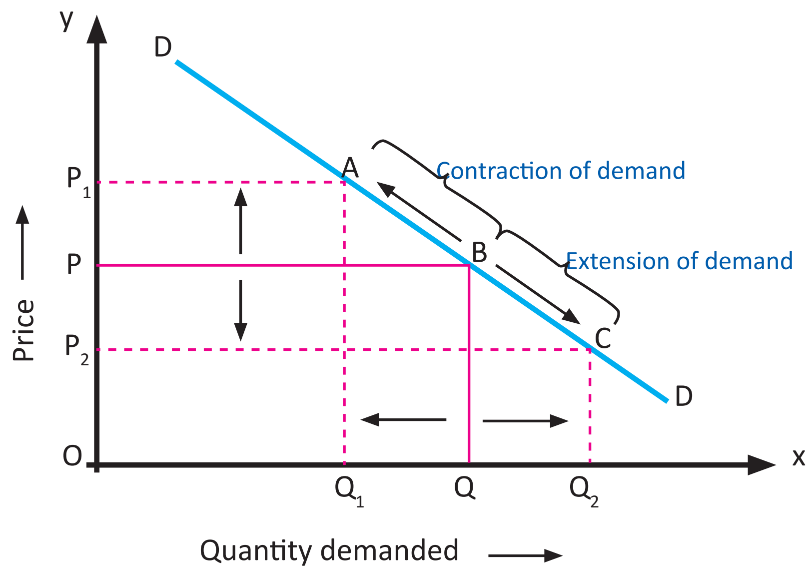

Figure 3.6: Movement along the demand curve

3.7. Shift of the Demand Curve: Change in Demand

The shift of a demand curve takes place when there is a change in factors other than the price of a commodity. The shift in demand curve can be either to the right or left depending on the factor.

a. Increase in Demand:

It refers to the increase in quantity demanded of a commodity due to change in other determinants, price of a commodity remaining the same. As a result, demand curve shifts to the right. In Figure 3.5, the rightward shift from point B to point C indicates the increase in demand.

b. Decrease in Demand:

It refers to the decrease in quantity demanded of a commodity due to change in other determinants, price of the commodity remaining same. This results into shift in demand curve to the left. In Figure 3.7, the leftward shift from point B to point A represents the decrease in demand.

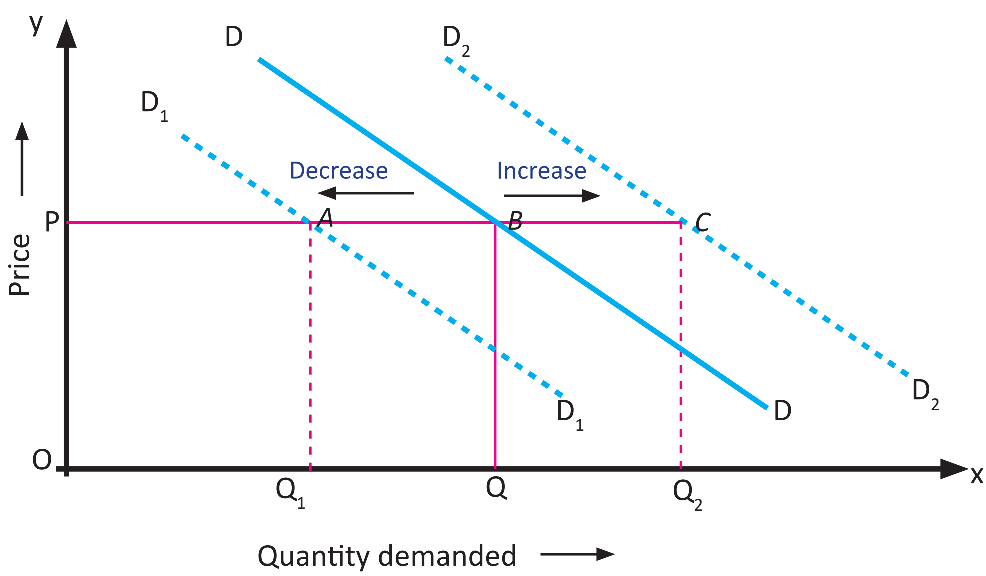

Figure 3.7: Shift in the demand curve

Learning Activity 3.4: *Interpreting movement and shift of demand curves*

Instructions:

Examine the impact of the determinats of demand on the demand curve.

Questions:

i) Using any determinants of demand, illustrate the movement and shift of demand curves.

ii) Differentiate between

   a. Increase in demand and expansion of demand

   b. Decrease in demand and contraction of demand

iii) In your opinion, which is the most influential determinant that leads to shift in demand curve in the Bhutanese context? Justify.

Review Questions

1. Draw a demand graph using the demand schedule and find the relationship between price and quantity demanded for apple.

Price of apple (Nu per Kg)	Quantity demanded of apple (Kg)
100	3
90	6
70	8
40	12
25	15

2. Explain the reasons for the downward sloping of demand curve.
3. Discuss the determinants of demand for a commodity in an economy.
4. The price of iPhone is normally high in Bhutan, yet there is high demand for it. Justify.
5. Ellucidate the movement along the demand curve with a diagram.
6. Compare the movement along the demand curve with shift in demand curve with the help of diagrams.
7. Explain FOUR situations that lead to a positively sloped demand curve.

Chapter 4

Supply and Law of Supply

Learning Objectives

1. Explain the meaning of supply
2. Examine factors affecting supply
3. Explain law of supply through schedule and curve
4. Analyse exceptions to law of supply
5. Differentiatebetweenshiftsofsupplycurvesandmovementsalongthesupply curve

4.0. Introduction

The concept of supply is equally important as demand. The study of demand and supply is complementary. While the theory of demand explains the behaviour of consumers, theory of supply explains the behavior of producers and sellers. This chapter emphasizes on the supply side of the market and examines the behaviour of producers.

4.1. Supply

Supply refers to various quantities of a commodity that a seller or a firm is willing to sell at different prices during a particular period of time. The total amount of goods or services that the suppliers are willing to sell at a given price is known as quantity supplied.

Individual Supply and Market supply

Individual supply refers to the supply of a commodity by single producer. Normally, there are more than one producer in the market. The total quantity of a commodity that all the producers are willing to sell in the market is called market supply.

4.2. Law of Supply

Law of supply explains the relationship between the price and quantity of a commodity supplied. The law states, holding other factors constant, the supply of a commodity increases with increase in its price and vice versa. Therefore, there is a direct relationship between price and quantity of a commodity supplied. The law of supply can be illustrated with the help of supply schedule and curve.

Learning Activity 4.1: *Applying the concept of law of supply in the real world*

Instructions:

Study Figure 4.1 and infer the law of supply.

Figure 4.1 Application of the Law of Supply in the real world

Questions:

i) What is the basis of Sonam and Tshering's decision to start up a bakery?

ii) In the future, if you join the production line, how will you apply the decision made by Sonam and Tshering?

iii) Identify and analyse other factors that would influence your decision to supply more pastries in a market.

iv) Profit is the primary motive of every producer to produce and supply a commodity. If all the producers are driven by the profit motive, what kind of society do you foresee?

Supply Schedule

Supply schedule is the tabular representation of law of supply. A supply schedule is a tabular statement showing different quantities of a commodity that producers are willing to offer for sale at different prices during a given period of time. Supply Schedule is of two types:

a. Individual Supply Schedule

Individual supply schedule is a tabular representation which shows various quantities of a commodity that would be supplied at different prices by a producer during a given period. Table 4.1 shows a hypothetical supply schedule for good Y.

Table 4.1 Individual supply schedule

Price of good Y (Nu per Unit)	Quantity supplied (Unit per week)
80	10
100	15
120	20
140	25

b. Market Supply Schedule

In a market, there are large numbers of producers with different individual supply schedules. A market supply schedule is sum of all the individual supply schedules. It represents various quantities of a commodity that all the producers are willing to supply at different prices during a given period. Table 4.2 shows a hypothetical market supply schedule for good 'Y'.

Table 4.2 Market supply schedule

Price of Y (Nu per Unit)	Quantity supplied by Producer A (Unit per week)	Quantity supplied by Producer B (Unit per week)	Quantity supplied by Producer C (Unit per week)	Market supply (A+B+C) (Unit per week)
80	10	5	85	100
100	15	15	170	200
120	20	25	255	300
140	25	35	340	400

Supply Curve

The law of supply can be represented in the form of a curve using supply schedule. Supply curve depicts different quantities of a commodity that would be supplied at different prices during a given period. The supply schedule given in Table 4.1 can be represented in the graphical form as shown in figure 4.2 .

a. Individual Supply Curve

The graphical representation of the law of supply of an individual is called individual supply curve. Individual supply curve shows the different quantities of a commodity that a seller is willing to offer for sale at various prices during a particular period of time. Figure 4.2 shows the individual supply curve derived from Table 4.1.

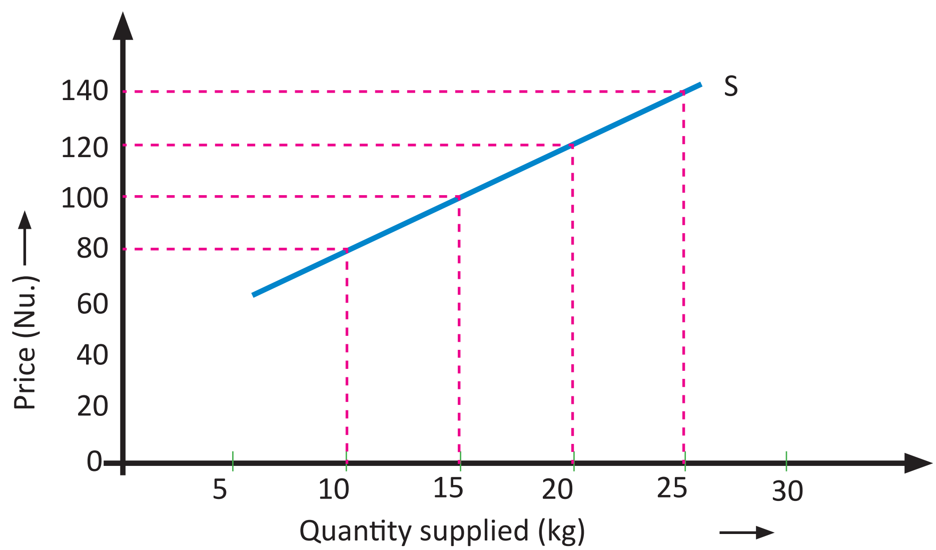

Figure 4.2: Individual supply curve

In figure 4.2, X axis represents quantity supplied and Y axis represents price of good Y. When the price of good Y is Nu 100 per unit, the quantity supplied is 15 units in a week. As, the price increases to Nu 120, the quantity supplied increases to 20 units and when the price decreases to Nu 80, the quantity supplied decreases to 10 units. It indicates that increase in price leads to increase in the quantity supplied and decrease in price leads to decrease in the quantity supplied. There is a positive relationship between the quantity of supply of a commodity and its price and therefore, the supply curve slopes upward from left to right.

b. Market Supply Curve

The graphical representation of the law of supply of market is called market supply curve. Market supply curve shows the different quantities of a commodity that sellers are willing to offer for sale at various prices during a particular period of time. Figure 4.2 shows the market supply curve derived from Table 4.2.

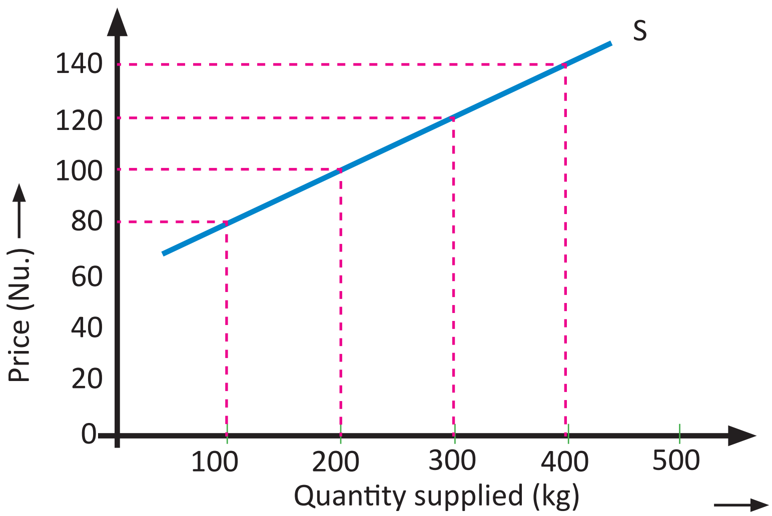

Figure 4.3: Market supply curve

In figure 4.3, X axis represents quantity supplied and Y axis represents price of good Y. When the price of good Y is Nu. 80 per unit, the market supply is 100 units in a week. As the price increases to Nu 100 per unit, the supply also increases to 200 units per week.

Learning Activity 4.2: *Deriving supply curve*

Instructions:

Refer Table 4.3 and answer the following questions.

Table 4.3 Market supply schedule of Avocado for February 2021

Price of avocado (Nu per kg)	Quantity supplied by Mr. Dorji (kg)	Quantity supplied by Ms. Dem (kg)	Quantity supplied by Mr. Tika (kg)	Market supply (Total supply)
100	0	10	15	25
200	5	20	25	a) ………
300	b) ………	30	30	75
400	20	40	c) ………	100

Questions:

i) Fill up the Table 4.3.

ii) Draw the individual supply curve for Mr. Tika.

iii) Derive market supply curve of Avocado for February 2021

iv) Explain the characteristics of the supply curve.

4.3. Determinants of supply

A seller or a firm does not produce and sell their products at random. They adjust the quantity of a commodity they produce and sell according to the market requirements. There are many factors that determine the supply of a commodity in the market, such as:

a. Price of the commodity

Price of the commodity is a major factor that determines the supply of that commodity. Increase in the price of a commodity motivates the producers to produce and sell more in the market and vice versa. Thus, there is positive relationship between the price and the quantity supplied of a commodity.

b. Change in technology

Technology plays a vital role in the production and supply of a commodity. Cost per unit of production falls with the advancement in technology. As a result, producers produce more and increase the supply of that commodity at the same market price. On the other hand, outdated technology increases the cost per unit of production. Hence, the supply of that commodity falls.

c. Price of inputs

Price of inputs such as wages, interest charges, and the costs of raw materials also influence the supply of goods and services. Higher input prices increase the cost of production. Thus, the quantity of a commodity produced decreases and so does its supply. On the contrary, when the input prices fall, production becomes more profitable, encouraging existing firms to expand production and also enable new firms to enter the market. Consequently, the supply of goods increases. Hence, the supply of a commodity is negatively related to its input prices.

d. Agreement among producers

Sometimes, supply of a commodity is influenced by the agreement among producers. Producers unite and limit the supply of a commodity by creating artificial scarcity in the market to increase the market price and gain more profits.

e. Price expectation

When producers expect the price of a commodity to rise in future, they reduce the quantity they offer for sale at the current price because they want to sell more when the price increases. As a result, the supply of the commodity falls in the existing period. Conversely, when producers expect the price to fall in future, they increase the supply of commodities at the current price before the price falls.

f. Price of related goods

Since resources have alternative uses, the quantity supplied of a commodity also depends on the prices of its related commodities, particularly the substitutes. Increase in the price of its substitute will decrease the supply of a commodity, as it is more profitable to produce the substitute. Thus, the firm shifts its limited resources from producing the given commodity to its substitute. For example, a farmer who produces rice will switch to wheat cultivation if the price of wheat increases.

g. Number of sellers

In the free market, sellers can easily enter and exit the market based on the profitability of their venture. When the market is profitable, many new firms enter the market thereby increasing the supply. Conversely, firms exit the market when they do not earn profit thereby decreasing the supply of a commodity. Therefore, number of sellers in the market also affects the supply of a commodity besides the preceding factors.

4.4. Time Period and Supply

Economists classify time period on the basis of how supply responds to a change in price.

Time period can be divided into three:

a. Market period

It is a very short period in which the supply is fixed. The maximum supply in the market period is the stock of the goods, which has already been produced. This usually happens with perishable goods like vegetables and dairy products. Thus, supply curve will be a vertical straight line as illustrated by S_1 in Figure 4.4.

b. Short run

Short period is the period in which adjustments can be made to the supply of the goods up to a certain extent. Producers can increase the supply of the goods by an intensive use of the existing plants or by running the given production plant for longer hours. Short run is not long enough for the firms to set up new machines or new plants. Therefore, the short run supply can be increased to a limited extent. The short run supply curve is illustrated in Figure 4.4 indicated by S_2.

c. Long run

Long run is a period during which the size of the firm can be altered or the firms can set up new production plants. Moreover, new firms may enter the industry by setting up new plants. The long run supply can be fully adjusted and it is possible to bring about a large change in quantity supplied. This is illustrated in Figure 4.4 by a flatter supply curve S_3.

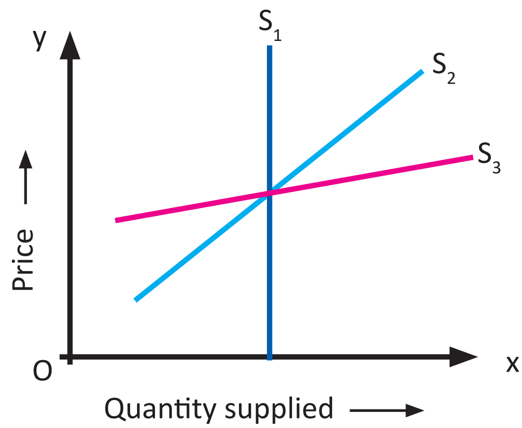

Figure 4.4: Time period and supply curves

4.5. Exceptions to Supply Surves

A normal supply curve usually slopes upward from left to right but in certain exceptional cases, the supply curve may take a different shape. It is important to understand the exceptional supply curves.

a. Vertical supply curve

There are certain commodities for which the supply cannot be increased or decreased irrespective of change in the price. The supply of rare goods like classical paintings, antiques, ancient coins and stamps are fixed. In this case, supply curve is a vertical straight line indicated by S in Figure 4.5

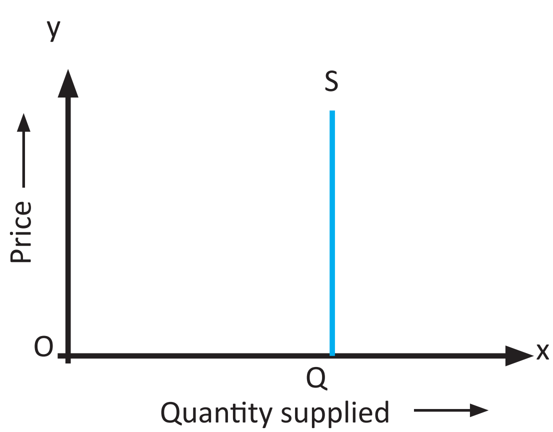

Figure 4.5: Vertical supply curve

b. Backward bending supply curve-

This form of supply curve might occur in the labour market. In a labour market, initially workers will be willing to work for longer hours at higher wages. However, beyond a certain level, they will prefer to work for lesser hours even at higher wages so as to enjoy more leisure. The backward bending supply curve S is depicted in Figure 4.6.

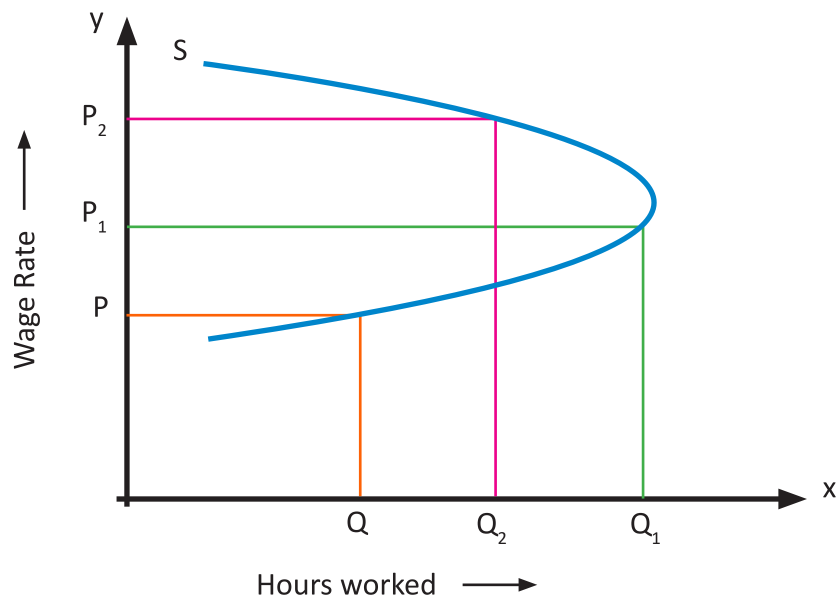

Figure 4.6: Backward bending supply curve

4.6. Movement along the Supply Curve (Change in Quantity Supplied)

Movement along the supply curve represents the change in quantity supplied of the commodity due to a change in its own price, keeping other factors constant

The movements along the supply curve are of two types:

a. Extension of supply

Extension of supply refers to an increase in the quantity supplied of the commodity due to the increase in its own price while other factors remain constant.

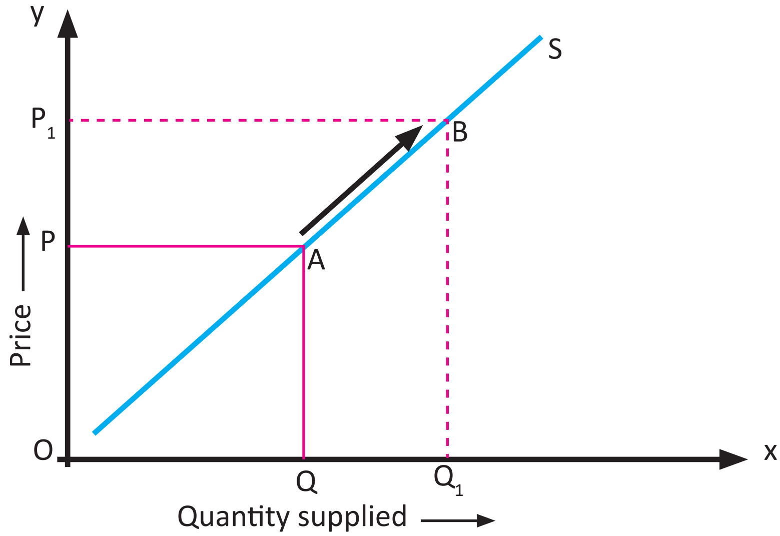

Figure 4.7: Extension of supply

In Figure 4.7, price of the good is shown on the Y axis and the quantity supplied is shown on the X axis. When the price is OP, the quantity supplied is OQ. With an increase in the price from OP to OP1, the quantity supplied also increases from OQ to OQ1. This upward movement from point A to point B represents extension of supply.

b. Contraction of supply

It The

Contraction of supply is the decrease in the quantity supplied of the commodity due to the decrease in its own price while other factors remain constant.

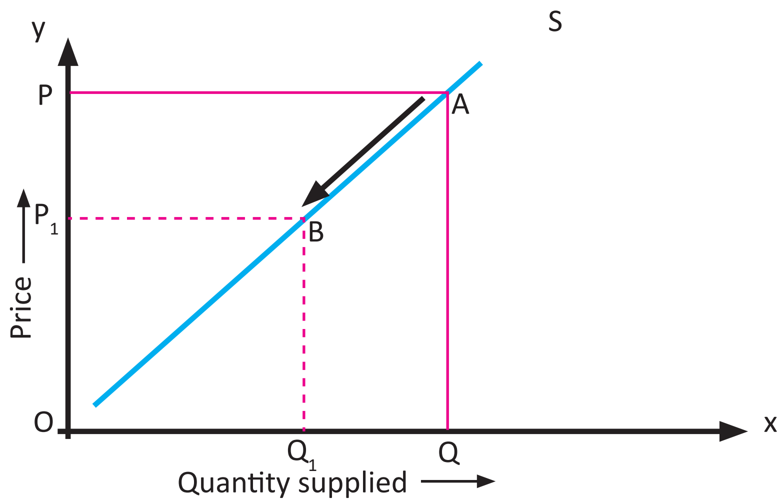

Figure 4.8: Contraction of supply

Figure 4.8 shows that when the price of the commodity is OP, the quantity supplied is OQ. With the decrease in price from OP to OP1, the quantity supplied also decreases from OQ to OQ1. Therefore, the downward movement from point A to B represents contraction of supply.

4.7. Shift of Supply Curve (Change in Supply)

Shift of supply curve occurs when the quantity supplied of a commodity changes due to the change in other factors, price of the commodity remaining same. Changes in supply are of two types:

a. Increase in supply

It is a situation in which an increase in quantity supplied of a commodity is brought about by change in other factors such as improvement in technology, favourable natural factors and decrease in the price of inputs.

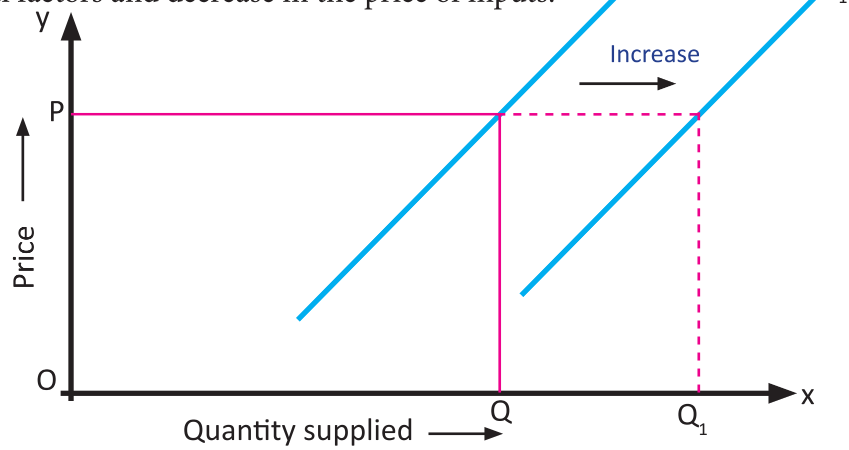

Figure 4.9: Increase in supply

In figure 4.9, when the price is OP, the quantity supplied is OQ. If there is an improvement in technology, the quantity supplied will increase from OQ to OQ1 at the same price OP, leading to shift in supply curve from S to S1.

b. Decrease in supply

It is a situation in which a decrease in quantity supplied of a commodity is brought about by change in other factors such as, unfavourable natural factors, increase in the price of inputs and use of outdated technology.

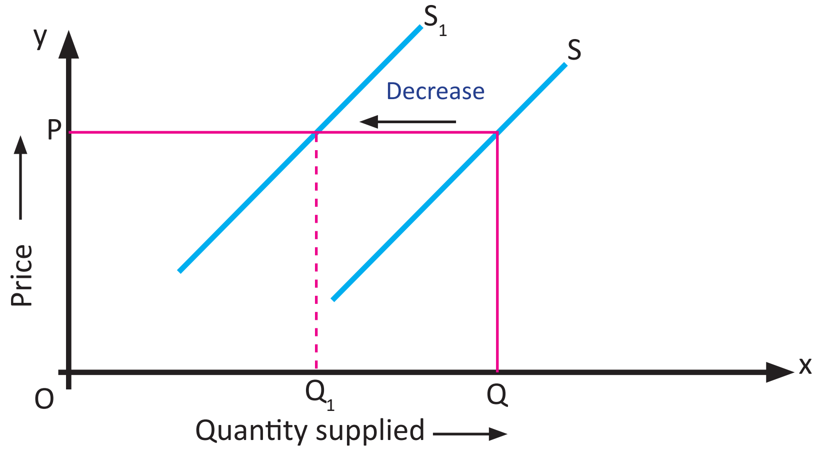

Figure 4.10: Decrease in supply

In figure 4.10, when the price is OP, the quantity supplied is OQ. If the firm uses outdated technology, the quantity supplied will decrease from OQ to OQ1 at the same price OP, leading to shift in supply curve from S to S1.

Learning Activity 4.3: *Examining a case of supply crisis*

Instructions:

Choose a current case on shortage in supply of a commodity to examine the cause of the crisis.

Questions:

i) What is the issue in the case study that you have chosen?
ii) Why did the issue arise?
iii) Discuss the likely consequences of the issue on the economy.
iv) Suggest some measures to address the issue.

Review Questions

1. With the help of a diagram, explain the effect of reduction in factor prices on the supply of a commodity.
2. Illustrate with the help of a diagram; the effect on the supply of a commodity due to out dated technology.
3. "The supply curve slopes upward from left to right". Discuss.
4. Indicate how each of the following will affect the current supply of mobile phones:
   i) An increase in the number of producers of mobile phones.
   ii) The government increase tax on the production of mobile phones.
   iii) A rise in the wage rate of labour.
   iv) Subsidy granted on the production of mobile phones.
5. Differentiate between movement along the supply curve and shift in supply curve.

Chapter

5

Elasticity of Demand and Supply

Learning Objectives

1. Discuss the types of elasticity of demand.
2. Calculate price elasticity of demand using percentage method.
3. Evaluate degrees of price elasticity of demand.
4. Examine factors affecting price elasticity of demand.
5. Explain the importance of price elasticity of demand.
6. Explain categories (degree) of elasticity of supply.
7. Calculate price elasticity of supply using percentage method.
8. Examine factors affecting price elasticity of supply.
9. Explain importance of price elasticity of supply.

5.0. Introduction

The law of demand and supply makes a qualitative statement, indicating the direction of change in quantity demanded and supplied in response to a change in price. The law does not explain to what extent the quantity changes in response to a change in price. The extent to which the quantity of a commodity changes, as a result of a change in its determinants is provided by the concept of elasticity. The concept of elasticity is important in understanding the economic theories and in making various economic decisions.

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5.1. Elasticity of Demand

The demand for a commodity is determined by factors like price, income, price of related goods and taste and preferences. The extent to which the demand for a commodity changes due to change in its determinants is known as elasticity of demand. It shows the degree of responsiveness of the quantity demanded of a commodity to a change in its determinants.

Types of Elasticity of Demand

a. Price Elasticity of Demand

The price elasticity of demand measures the change in quantity demanded of a commodity when its price changes. Thus, price elasticity of demand is the degree of responsiveness or sensitiveness of the quantity demanded of a commodity due to a change in its price. It is the ratio of percentage change in quantity demanded to percentage change in price.

$$\text{Price elasticity of demand}(e_p) = \frac{(\%\ \text{Change in Quantity Demanded})}{(\%\ \text{Change in Price})}$$

b. Income Elasticity of Demand

Income elasticity of demand shows the degree of responsiveness of quantity demanded of a commodity to a change in income of consumers. Thus, it is defined as the ratio of the proportionate change in quantity demanded of a commodity to the proportionate change in income of the consumers. Income elasticity of demand is positive for normal goods, negative for inferior goods, and zero for inexpensive goods of necessities.

$$\text{Income elasticity of demand}(e_y) = \frac{(\%\ \text{Change in Quantity Demanded})}{(\%\ \text{Change in Income})}$$

c. Cross Elasticity of Demand

Demand for a commodity is determined by the price of its related goods. Therefore, the change in demand for one good in response to the change in the price of the related good represents the cross elasticity of demand. It determines the effects of change in the price of a good on the demand of its substitutes and complementary goods. It can be expressed as:

$$\text{Price elasticity of demand}(e_{xy}) = \frac{(\%\ \text{Change in Quantity Demanded of Commodity X})}{(\%\ \text{Change in Price of Commodity Y})}$$

5.2. Classification of Price Elasticity of Demand

The price elasticity of demand is categorized into five different types, depending on the rate of change in quantity demanded in response to change in the price.

a. Unitary Elastic Demand

The demand is said to be elastic when the percentage change in a price of a commodity causes an equivalent percentage change in the quantity demanded. For example, if a 10% rise in a price of a commodity leads to a 10% decrease in the amount purchased.

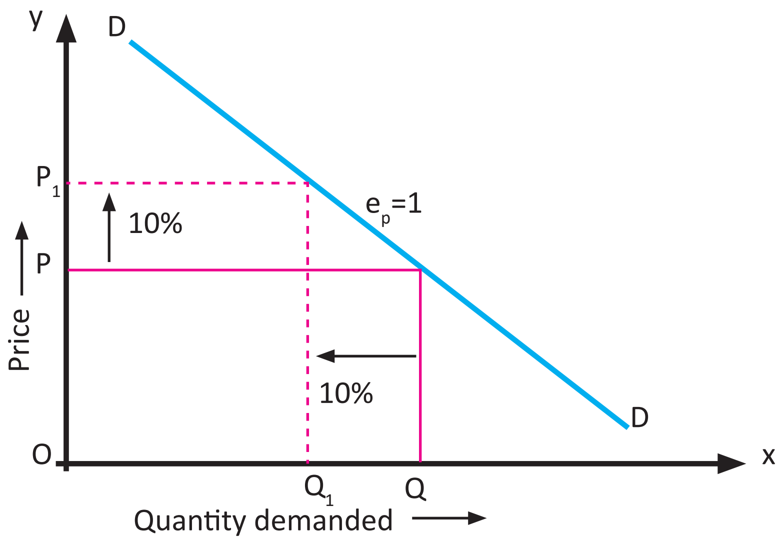

Figure 5.1: Unitary Elastic Demand

In Figure 5.1, at initial price OP the quantity demanded is OQ. When price increase by 10% from OP to OP1, the quantity demanded decreases by 10% from OQ to OQ1. This indicates a unitary elastic demand. Thus, elasticity of demand is equal to 1.

b. Elastic Demand

When the percentage change in quantity demanded of a commodity exceeds the percentage change in its price, demand is said to be elastic. For example, a fall in the price of a commodity by 5% causes an increase in the quantity demanded by 10%.

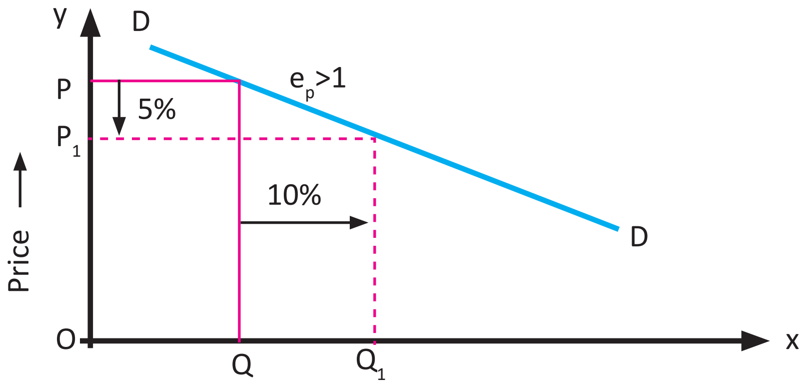

Figure 5.2: Elastic Demand

c. Inelastic Demand

The demand is inelastic when the percentage change in quantity demanded of a commodity is less than the percentage change in its price. For example, a fall in the price of a commodity by 6% leads to an increase in quantity demanded by 3%.

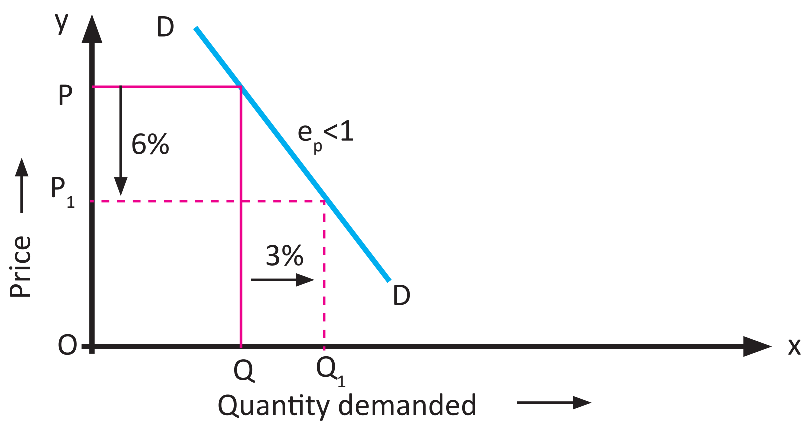

Figure 5.3: Inelastic Demand

d. Perfectly Elastic Demand

When the consumers are prepared to purchase all that they can get at a particular price but nothing at a slightly higher price, demand is perfectly elastic. This type of elasticity rarely exist

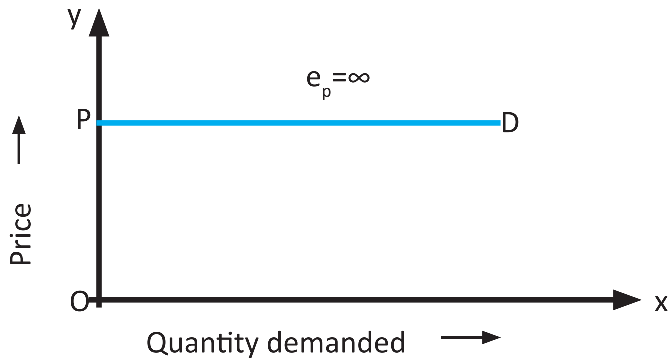

Figure 5.4: Perfectly Elastic Demand

e. Perfectly Inelastic Demand

When the quantity demanded of a commodity does not respond to a change in its price, the price elasticity of demand is perfectly inelastic. The quantity demanded remains the same, irrespective of any rise or fall in the price of the commodity.

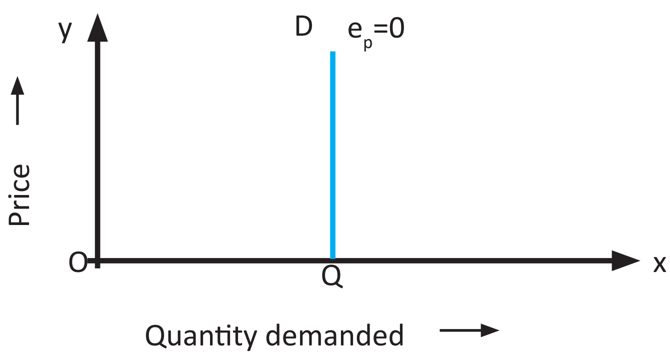

Figure 5.5: Perfectly Inelastic Demand

5.3. Measurement of Price Elasticity of Demand

Price elasticity of demand can be measured by using percentage method, total expenditure method and geometric method. However, one of the widely used methods is the percentage method.

In this method, price elasticity of demand is measured by the ratio of percentage change in quantity demanded to the percentage change in the price of the commodity. It is expressed as:

$$e_p = \frac{\%\text{ change in quantity demanded}}{\%\text{ change in price}}$$

$$= \frac{\dfrac{\text{New quantity demanded - Old quantity demanded}}{\text{Old quantity demanded}} \times 100}{\dfrac{\text{New Price - Old Price}}{\text{Old Price}} \times 100}$$

$$= \frac{\Delta Q}{Q} + \frac{\Delta P}{P} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$, where P - Old price

Q - Old quantity demanded

ΔP - Change in price

ΔQ - Change in quantity demanded

Example 1:

A consumer demands 50 kg of rice at Nu 25 per kg. When the price of rice falls from Nu 25 to Nu 20 per kg, the quantity demanded increases from 50 kg to 60 kg. Calculate the price elasticity of demand.

Solution:

ΔQ = 10 kg ΔP = Nu. 5   P = Nu. 25

$$\therefore e_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

$$= \frac{10}{5} \times \frac{25}{50} = 1$$

Thus, the demand for rice is unitary elastic.

Example 2:

A household increases the demand for a commodity from 40 units to 50 units when its price falls by 10 %. Calculate the price elasticity of demand. Is it elastic or inelastic?

Solution:

$$\% \text{ change in quantity demanded} = \frac{50 - 40}{40} \times 100 = 25$$

$$e_p = \frac{\% \text{ change in quantity demanded}}{\% \text{ chnage in price}} = \frac{25}{10} = 2.5$$

Therefore, demand is elastic.

Example 3:

100 units of a good are demanded at the price of Nu 4 per unit. The price rises and as a result, its demand falls to 75 units. The price elasticity of demand of that good is . Calculate the new price of the good.

Solution:

$P = 4 \quad Q = 100 \quad \Delta Q = -25 \quad e_p = 1$

$$\Rightarrow -1 = \frac{-25}{\Delta P} \times \frac{4}{100}$$

$$\Rightarrow \Delta P = 1$$

Therefore, the new price is = 4 + 1 = Nu. 5

5.4. Factors determining the Price Elasticity of Demand

a. Availability of Substitutes

Demand for a commodity with many close substitutes tends to be elastic. If the price of such a commodity rises, the consumers will be induced to go for its close substitutes and as a result, the demand for that commodity decreases. If there is no close substitute, the demand will be inelastic.

b. Nature of the commodity

Demand for necessities is inelastic. Since, these goods are necessary for survival, consumers have to purchase them irrespective of change in price. On the other hand, goods like luxuries and comforts can be postponed, as they are not essential. Thus, demand for such goods is elastic.

c. The Proportion of the income spent

The proportion of income spent on the commodity influences the elasticity of demand. The smaller the proportion of income spent on a commodity, the lower will be the elasticity of demand. When prices of such goods change, consumers continue to purchase almost the same quantity of these goods. On the other hand, for those goods where the consumers spend higher proportion of income, the demand will be elastic. Any changes in their price will have a considerable effect on their income level, thereby demand changes to a great extent.

d. The number of uses of a commodity

The price elasticity of demand will be elastic if the commodity has several uses. When the price of such commodity is high, the consumer will use it for the most important purpose. If the price of the commodity is low, it will be used for satisfying even the less pressing needs. On the other hand, the commodities with fewer uses have inelastic demand.

e. Time factor

Price elasticity of demand is generally low for the short period as compared to the long period. If the price of a commodity rises, demand for it will be inelastic in the short run, as substitute may not be available as it takes time to adjust tastes. In the long run, demand will be elastic as consumers may switch over to new substitute and adjust their tastes and preferences.

Learning Activity 5.1: *Examining price elasticity of demand*

Instructions:

Identify some of the products sold in the local market in your community.

Questions:

i) Categorize the products based on the degree of elasticity of demand.

ii) Discuss factors which can influence the elasticity of demand for the identified products

iii) How would the following factors determine the elasticity of demand:

  a) Habits of the consumer
  b) Price range
  c) Goods and Service Tax (GST)

5.5. Importance of Elasticity of Demand

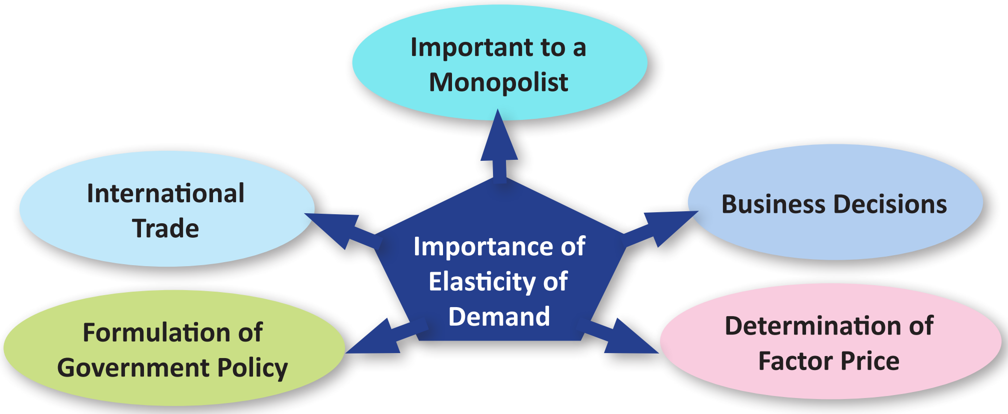

Figure 5.6: Importance of Elasticity of Demand

Learning Activity 5.2: *Applying the concept of price elasticity of demand*

Instructions:

Read the abstract to analyze the application of the concept of elasticity of demand in the real world.

> The government encourages the Bhutanese farmers to venture into mass production which would not only help in achieving the national goal of food self-sufficiency but also in maintaining equilibrium in balance of payment by increasing the exports. However, as agriculture goods are inelastic demand, bumper harvest may not always be good news for the farmers.

Questions:

i) How would increase in price of agricultural goods impact the consumers decision to consume and the producers decision to produce?

ii) Can mass production always bring higher revenue to the farmers? Why?

iii) Why does government provide incentives to necessities like agriculture produce?

iv) Identify some imported products with elastic demand on which the government can impose taxes to rectify the deficit in balance of payment

5.6. Price Elasticity of Supply

Price elasticity of supply is a measure of responsiveness of the quantity supplied of a commodity to a change in its price. Thus, price elasticity of supply is the ratio of percentage change in the quantity supplied of a commodity to percentage change in its price. Price elasticity of supply is calculated using the following formula:

$$e_s = \frac{\text{\% change in quantity supplied}}{\text{\% change in price}}$$

Classification of Price Elasticity of Supply

The various degrees of price elasticity of supply is classified into five categories:

a. Elastic supply

Elastic supply is a situation when the percentage change in quantity supplied is greater than the percentage change in its price. Under this situation, the value of price elasticity of supply is greater than one. Any straight line supply curve that passes through y axis has inelastic supply.

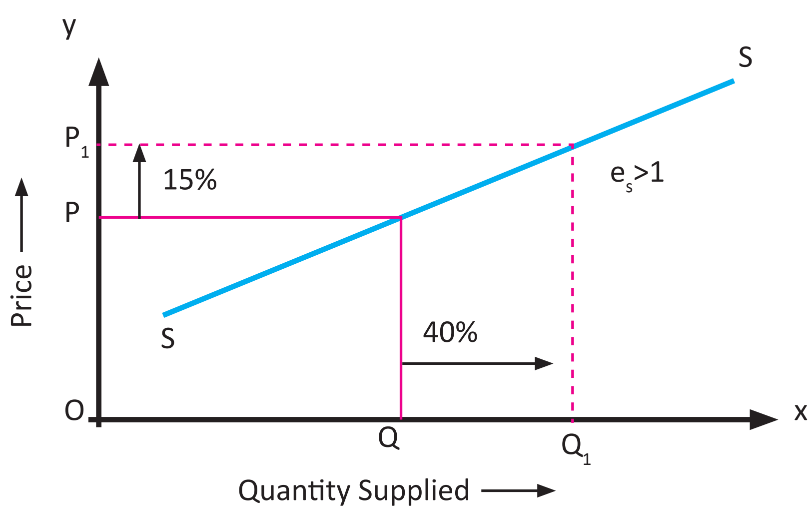

Figure 5.7: Elastic supply

Figure 5.7 exhibits the elastic supply curve SS. At initial price OP, quantity supplied is OQ. An increase in price by 15% form OP to OP1 leads to 40% increase in quantity supplied from OQ to OQ1. In general, any straight-line supply curve that passes through the Y-axis has an elastic supply.

b. Inelastic supply

Supply is inelastic when the percentage change in quantity supplied is less than the percentage change in its price. The numerical value of elasticity of supply is less than one. Any straight line supply curve that passes through X axis has inelastic supply.

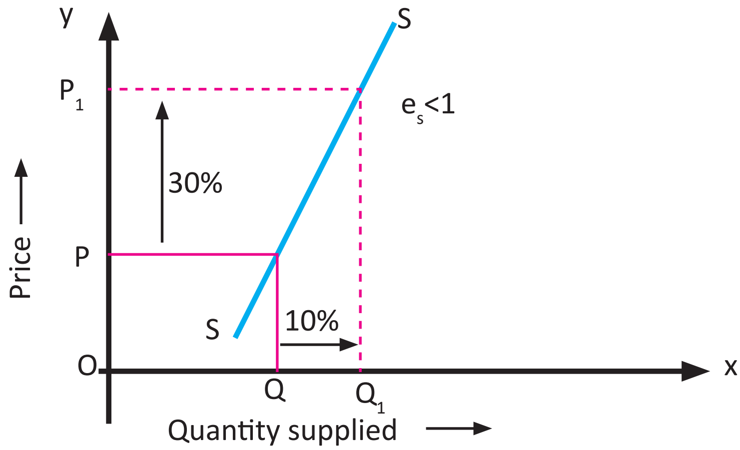

Figure 5.8: Inelastic supply

c. Unitary elastic supply

When the percentage change in quantity supplied is equal to the percentage change in its price, supply is said to be unitary elastic. Any straight line supply curve that passes through origin has unitary elastic supply

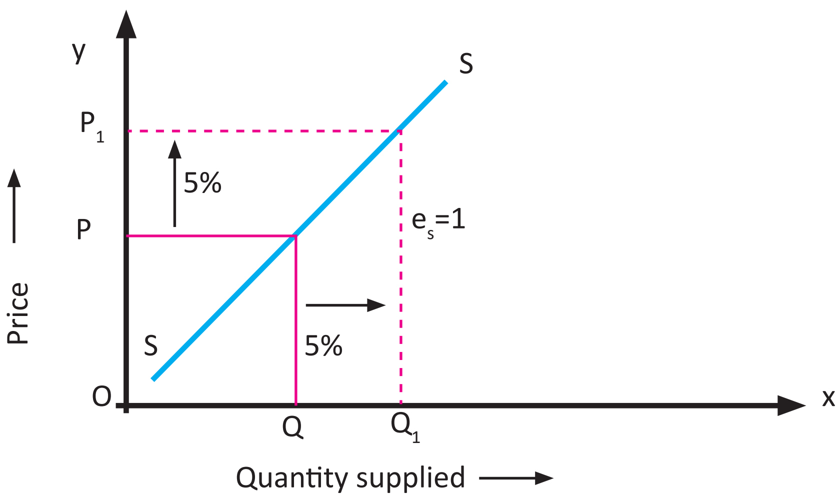

Figure 5.9 Unitary elastic supply

d. Perfectly elastic supply

Infinite or perfectly elastic supply represents that an unlimited quantity of a good will be supplied at the given price, but nothing would be supplied at a slightly lower price. In this case, the supply curve is a parallel to X axis.

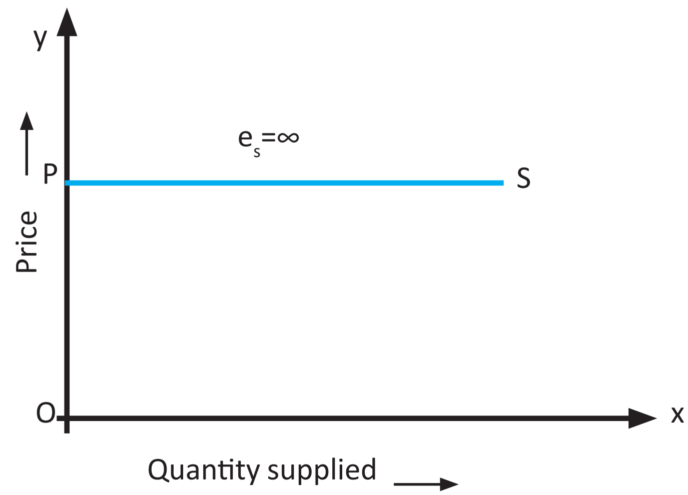

Figure 5.10: Perfectly elastic supply

e. Perfectly inelastic supply

Perfectly inelastic supply is a situation when the quantity supplied does not respond to change in the price. Here, the supply curve is a parallel to Y axis. The numerical value of elasticity of supply is equal to zero.

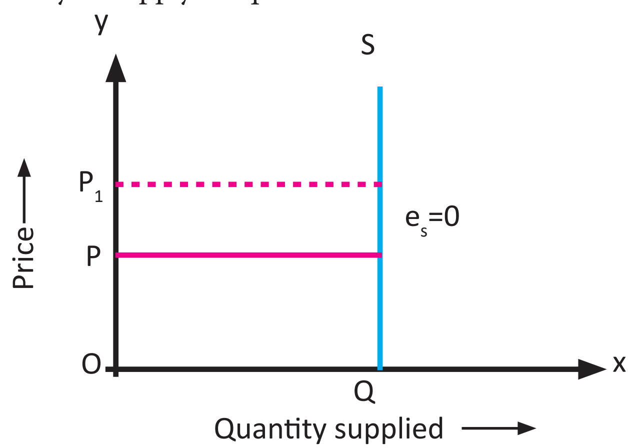

Figure 5.11: Perfectly inelastic supply

5.7. Measurement of Price Elasticity of Supply: Percentage Method

Using this method, price elasticity of supply is measured as the ratio of percentage change in the quantity supplied of a commodity to percentage change in its price. The formula for measuring the price elasticity of supply is:

In terms of mathematical symbol, it is expressed as:

$$e_s = \frac{\text{\% change in quantity supplied}}{\text{\% change in price}}$$

$$= \frac{\dfrac{\text{New quantity supplied - Old quantity supplied}}{\text{Old quantity supplied}} \times 100}{\dfrac{\text{New Price - Old Price}}{\text{Old Price}} \times 100}$$

$$= \frac{\Delta Q}{Q} \div \frac{\Delta P}{P} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$, where P - Old price

Q - Old quantity supplied

ΔP - Change in price

ΔQ - Change in quantity supplied

Learning Activity 5.3: *Computing the price elasticity of supply*

Instructions:

1. Using the information in Table 5.1, answer the following questions.

Table 5.1: Comparative Supply Schedule

Mango		Ice cream	
Price (Nu per kg)	Quantity supplied (kg per week)	Price (Nu per Cone)	Quantity supplied (Cone per week)
100	14	50	4
80	10	80	6

Questions:

i) Calculate the elasticity of supply of mango and ice cream.

ii) Compare the elasticity of supply for mango and ice cream.

iii) Sonam supplies 200 trays of eggs at Nu 300 per tray. Price elasticity of supply is 2. How many trays will Sonam supply at Nu 330 per tray?

iv) Calculate the price elasticity of supply of pumpkin when its supply increases from 300 Kg to 600 Kg due to a rise in its price by 10%. Is it elastic or inelastic, give reason.

5.8. Determinants of Elasticity of Supply

Price elasticity of supply is different for different commodities. It is important to know why supply for some goods is more elastic, while for others it is less elastic. The elasticity of supply depends on several factors

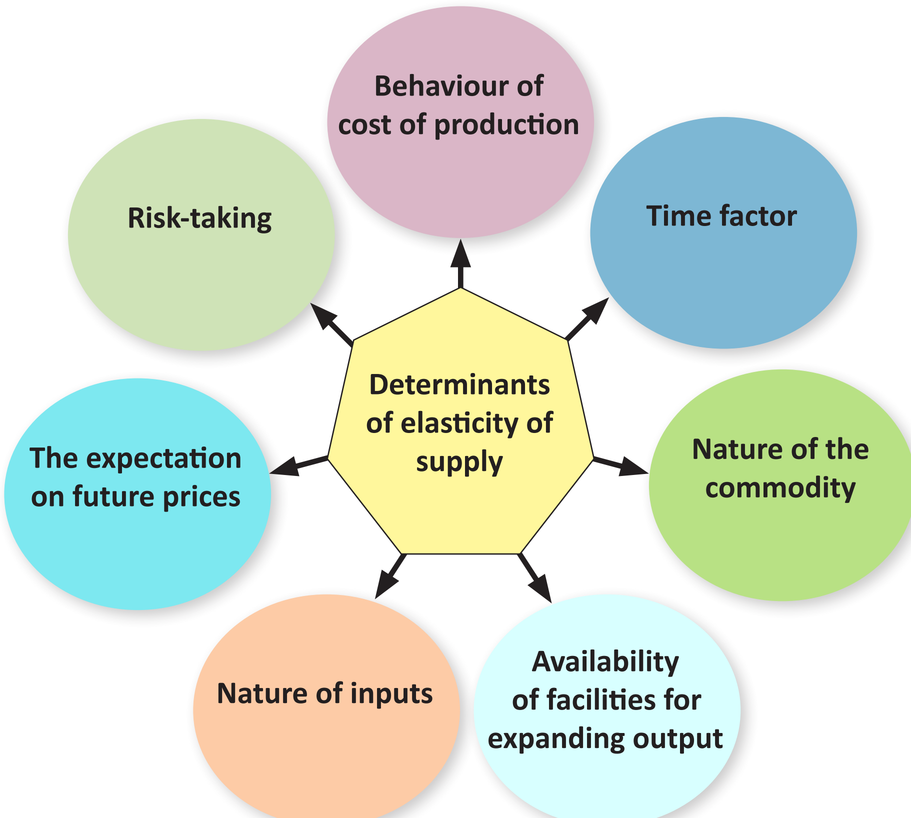

Figure 5.12: Determinants of elasticity of supply

Learning Activity 5.4: *Analysing the determinants of price elasticity of supply*

Instructions:

Study the figure and answer the questions to understand the determinants of elasticity of supply.

Figure 5.13: Cases of Elasticity of supply

Questions:

i) Figure 5.12 represents the different situations in which the supply is elastic. Explain the case of inelastic supply for situation A, B, C and D.

ii) Explore other factors and examine how they determine the elasticity of supply.

iii) Suppose you are a producer and the price of your product has decreased but you have high stock of the good. How would you respond to such a situation?

5.9. Importance of Price Elasticity of Supply

The concept of price elasticity of supply is useful in economic planning and making business decisions. Figure 5.14 illustrates some of the important concepts of price elasticity of supply.

Figure 5.14 Importance of price elasticity of supply

Review Questions

1. Choose the most correct response from the following:

   i) The supply curve of antique reproductions is:

      A. Relatively elastic.

      B. Relatively inelastic.

      C. Perfectly inelastic.

      D. Unitary elastic

   ii) If the elasticity of supply is 2, this means that if:

      A. The price rises by one dollar, the quantity supplied will rise by two dollars.

      B. The price rises by one percent, the quantity supplied will rise by two percent.

      C. The price rises by two percent, the quantity supplied will fall by two percent.

      D. The price rises by two percent, the quantity supplied will rise by one percent.

   iii) Which of the following statements is true?

      A. The short run supply curve is more elastic than the long run supply curve.

      B. The long run supply curve is more elastic than the short run supply curve.

      C. Short run and long run supply curves have the same elasticity.

      D. Long run supply curve is always perfectly elastic.

2. A consumer demanded 10 Kg of potatoes when its price is Nu 20 per Kg. When the price of potatoes rises by 5 %, its quantity demanded falls by 15 Kg. Calculate its price elasticity.

3. The consumer buys 30 Kg of a certain good at a given price. How many units will the consumer buy if the price rises by 5 %? The price elasticity of demand for a good is 1.
4. How would the changes in the price of related goods affect the elasticity of demand for a commodity?
5. Inelastic goods are often described as necessities. Elaborate what happens to supply of such commodities with change in price.

Chapter 6

Market Equilibrium

Learning Objectives

1. Discuss equilibrium price and equilibrium quantity.
2. Examine determination of market price through demand and supply
3. Illustrate and explain the influence of demand and supply on the equilibrium price and equilibrium quantity.
4. Analyze the impact of government policies on the market price.

6.0. Introduction

Economic equilibrium is a situation in which economic forces such as demand and supply are balanced without any influences from economic variables. In a perfectly competitive market, equilibrium occurs at the point at which quantity demanded and quantity supplied are equal. Market equilibrium in this case is a condition where a market price is established through competition such that the amount of goods or services bought by buyers is equal to the amount of goods or services produced by sellers.

This chapter discusses about determining market equilibrium with the forces of demand and supply. It also highlights the effects of changes in demand and supply on equilibrium price and output.

6.1. Determination of Equilibrium Price and Quantity

In a competitive market, equilibrium is determined at the intersection of the market demand and market supply. The price that equates the quantity demanded with the quantity supplied is the equilibrium price, and the amount that consumers are willing to buy and sellers are willing to offer for sale at the equilibrium price level is the equilibrium quantity.

A market situation in which the quantity demanded exceeds the quantity supplied shows the shortage of goods in the market. A shortage occurs at a price below the equilibrium level. A market situation in which the quantity supplied exceeds the quantity demanded, there exists the surplus in the market. A surplus occurs at a price above the equilibrium level.

If a market is not in equilibrium, market forces try to move towards equilibrium. If the market price is above the equilibrium value, there is an excess of supply in the market, which means there is more supply than demand. In this situation, sellers reduce the price of their commodity to clear their inventories. They also slow down their production. This process results in increase in demand and decrease in supply until the market price equals the equilibrium price.

If the market price is below the equilibrium value, then there is excess demand. In this case, buyers bid up the price of the commodity. As the price goes up, some buyers tend to quit because they don't want to or can't pay the higher price. Eventually, the upward pressure on price and supply will stabilize at market equilibrium.

The determination of equilibrium price and quantity can be explained with the help of demand and supply schedule of an apple:

Table 6.1 Demand and supply schedule of Avocado

Price (Nu Per kg)	Quantity demanded (kg per week)	Quantity supplied (kg per week)	Market Position	Effect on Price
250	40	60	Excess Supply	Fall in price
200	45	45	Equilibrium	Constant
150	60	40	Excess Demand	Rise in price

Equilibrium price determination in a competitive market can be also illustrated diagrammatically with the help of market demand curve and market supply curve which is shown in Figure 6.1.

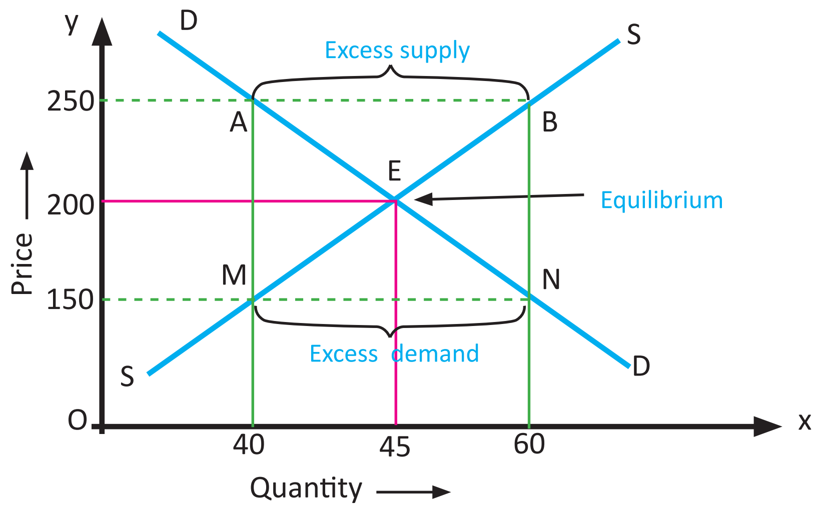

Figure 6.1: Equilibrium Price and Quantity

In Figure 6.1, horizontal axis represents the quantity demand and supply of a commodity and vertical axis represents price of the Commodity. DD is demand curve for a commodity and SS is supply curve of a commodity.

Demand and supply curve intersect at point E, where the equilibrium price is Nu 200 and equilibrium quantity of a commodity is 45 Kg. At this point of intersection, the quantity demanded is equal to the quantity supplied of a commodity. Therefore, point 'E' is known as equilibrium point.

If price increases from Nu 200 to Nu 250, there is excess supply of a commodity by 20 Kg. Since demand is less than supply, every seller will try to sell his/her quantity of the product first by lowering the price a little. Ultimately, competition among sellers will bring down the price to the equilibrium level.

On the other hand, at lower price i.e., at Nu 150, there is excess demand for a commodity by 20 Kg. As demand is greater than the supply of a commodity, the competition among buyers will raise the price from Nu150 to the equilibrium price Nu 200. Any deviation from this level will be restored by the automatic forces of demand and supply.

6.2. Effect of changes (shift) in Demand and Supply on the Equilibrium Price and Equilibrium Quantity

The changes or shift in demand and supply takes place due to change in factors other than price. It will affect the equilibrium price and the quantity in different ways;

a. Effects of change (shifts) in demand on equilibrium price and quantity

If supply remains constant, the shift of demand curve will lead to change in equilibrium price and quantity. The effect of change in demand on equilibrium price and quantity is illustrated in Figure 6.2.

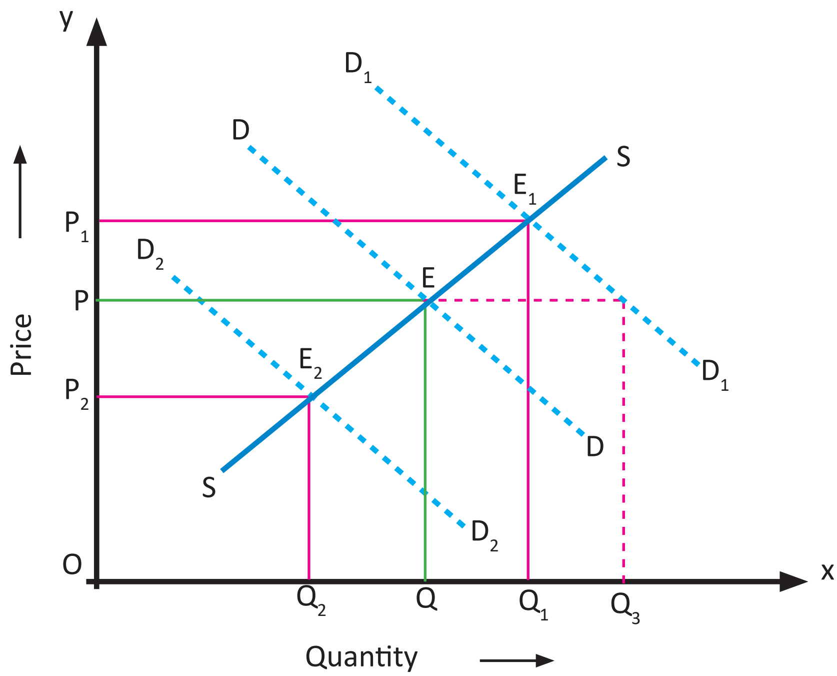

Figure 6.2: Effect of change in demand on equilibrium price and quantity

In Figure 6.2, the initial equilibrium is 'E' with the intersection of the initial demand curve DD and supply curve SS. At this point, the equilibrium price is OP and quantity is OQ.

As a result of increase in demand, the demand curve shifts to the right from DD to D1 D1. At the original price OP, quantity demanded now will be OQ3, but quantity supplied will remain same at OQ. This will lead to excess demand to the extent of QQ3 putting upward pressure on the price forming new equilibrium point E1 and

OP1 and OQ1 will be the new equilibrium price and quantity respectively. Thus, the increase in demand will increase both equilibrium price and quantity in the market.

On the other hand, when there is decrease in demand for the commodity, the demand curve will shift towards left from DD to D2D2. At the same original price OP, there arises excess supply in the market. This will exert a downward pressure on the price where the new demand curve once again intersect with the supply curve forming E2 equilibrium point. At the new equilibrium, the price and quantity are OP2 and OQ2 respectively.

b. Effects of change (shifts) in supply on equilibrium price and quantity.

If demand remains constant, the shift of supply curve will lead to change in equilibrium price and quantity. The effect of change in supply on equilibrium price and quantity is illustrated in Figure 6.3.

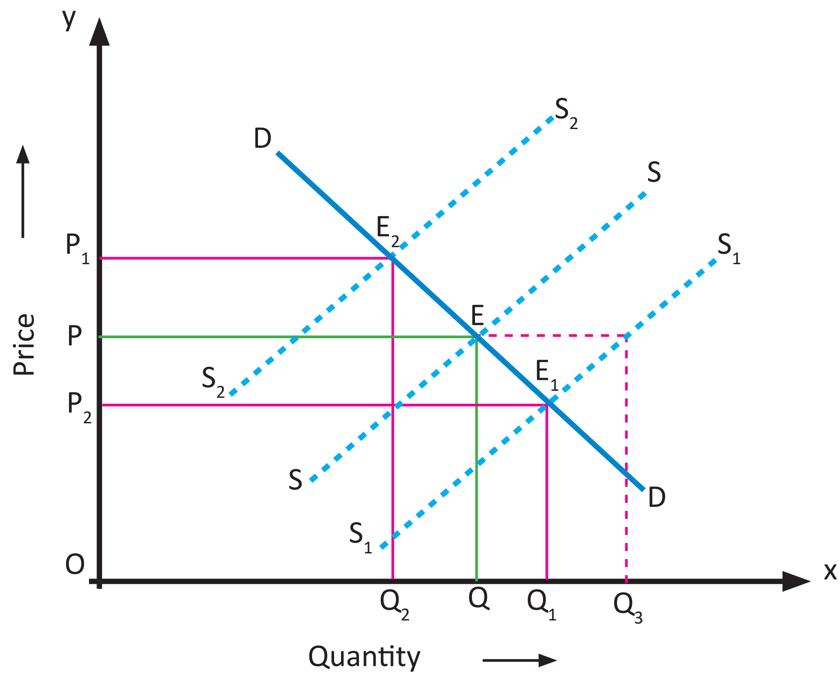

Figure 6.3: Effect of change in supply on equilibrium price and quantity

In Figure 6.3, the initial equilibrium is 'E' with the intersection of the initial demand curve DD and supply curve SS. At the initial equilibrium point, the equilibrium price is OP and quantity is OQ. Suppose there is increase in supply of a commodity in the market. The increase in supply will lead to rightward shift in supply curve from SS to S1S1. At same price OP, the demand remains unchanged at OQ but supply increases to OQ3 creating excess supply in the market. The excess supply will put downward pressure on the price where new equilibrium point is established at E1. As a result, the equilibrium price decreases from OP to OP1 and equilibrium quantity rises from OQ to OQ1. Thus, the increase in supply will reduce equilibrium price and increase the equilibrium quantity in the market.

On the other hand, the decrease in supply is represented by leftward shift in supply curve from SS to S2S2. At the same price OP, the demand remains unchanged at OQ but a fall in supply creates excess demand in the market putting upward pressure on the price where the new equilibrium point is formed at E1. Thus, equilibrium price increase from OP to OP2 and equilibrium quantity decreases from OQ to OQ2.

6.3. Effect of Simultaneous Changes in Demand and Supply.

In the earlier discussions with regard to effect of shift in demand and supply, it is observed that the equilibrium price and quantity change with the change in either demand or supply. However, it is also possible to have a change in both demand and supply simultaneously which will affect equilibrium price and quantity.

Learning Activity 6.1: *Analyzing the effects of simultaneous shifts in demand and supply*

Instructions:

1. Suppose the price and quantity of oranges is initially in equilibrium, draw diagrams to see the effects of simultaneous changes in demand and supply on equilibrium price and quantity in case of the following conditions:

At the initial equilibrium price, quantity demanded and supplied both increases by equal proportion.	At the initial equilibrium price, quantity demanded and supplied both increases but demand increases more than supply.	At the initial equilibrium price, quantity demanded and supplied both increases but supply increases more than demand.

2. Observe the diagram and answer the following questions
   i) Compare the three diagrams and write what happens to equilibrium price and quantity in each situation.
   ii) Interpret the diagram by mentioning the initial and new situations in the market.
   iii) What would make the price of oranges to decrease even though the demand for oranges has increased?
   iv) How would the following conditions impact the market price of oranges:
      a) Studies reports that eating oranges will make you live longer
      b) Pest infestation to orange trees
      c) Bumper harvest of oranges

6.4. Impact of Government Policies on the Market Price.

In the free market, the price mechanism ensures that the price-quantity is settled at a level where the quantity demanded equals the quantity supplied. However, government plays an important role in regulating the price, when market becomes inefficient. At such times, government fixes price by law rather than allowing it to be determined by the free market forces of demand and supply. Widely used price control tools by the government are price ceiling and price floor.

a. Price ceilings

A price ceiling is a legal maximum price at which a good can be sold. Price ceiling is set by government to protect consumers from paying unreasonable price for certain goods and services. By setting a maximum price, a government ensures that the goods are affordable to maximum consumers. For instance, ceiling on essential items such as petrol, electricity, and food are some of the examples.

b. Price floors

Price floor is a legal minimum price set by government at which a good can be sold. Price floor is set to motivate and assure that producers get a minimum reasonable price for their products. It helps in overcoming the problem like practice of monopoly. For instance, government fixes minimum prices for agricultural products and wages for the workers to protect the producers and workers.

Review Questions

1. Alferd Marshall stated that " Just as upper and lower blades of scissior are necessary to cut a piece of cloth, similarly both the forces of demand and supply are essential to determine the price of a commodity". Explain how the forces of demand and supply determine the price of a commodity in the market.
2. What will be the effect on price when there is :
   i) excess demand in the market
   ii) excess supply in the market
3. Graphically explain the effects on equilibrium price and quantity when both demand and supply decrease by the same proportion.
4. Explain with the help of a diagrams, the impact on equilibrium price and quantity when:
   i) there is an increase in income of a consumer,
   ii) there is decrease in cost of production.

Chapter

7

Forms of Market

Learning Objectives

1. Explain different forms of market.
2. Discuss distinctive features of different market structures.

7.0. Introduction

Market is a situation where the exchange of goods and services takes place as a result of buyers and sellers being in contact with one another, either physically or virtually. Market can be classified based on different situations, such as geographical location, nature of goods and services bought and sold, and the degree of competition that exists in the market. Considering the geographical location, the market can be a local, national or international market. Likewise, the market can be a product market or a factor market depending on the nature of goods and services bought and sold.

This chapter discusses market structure, which is categorized based on the degree of competition.

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7.1. Market Structure

Market structure refers to the types of market in which the producers or firms operate. It indicates how the market is organized. It is about how industries are classified and differentiated based on their degree and nature of competition for goods and services.

The industry is further divided into various categories according to the degree of competition that exists between the firms within the industry. There are four such categories.

a. Perfect Competition

In a perfect competition market structure, there is a large number of sellers producing homogeneous products and there are equally large number of buyers so that no individual seller or buyer can influence the price of the commodity.

Features of a perfectly competitive market:

i. Freedom of entry and exit

In a perfectly competitive market, new firms can enter into the market and existing firms can leave the market at their will. If the existing firms earn abnormal profit, this will attract new firms to join the industry. On the contrary, if the existing firms incur losses, some firms will exit the market. This condition of entry and exit in the market ensures that all the firms earn normal profit in the long run.

ii. Identical product

All firms produce the same product. The homogeneity of product means that the product is identical in size, design, packaging, colour, labeling, flavor, and nature. Therefore, there is no branding for the products. The products of all the firms are perfect substitute for each other. Hence, same price prevail throughout the market.

iii. Perfect knowledge

Sellers and buyers have a perfect knowledge of the market conditions. Consumers and producers are fully aware of the existing price, quality and availability of the product. No buyers will pay a price higher than the prevailing price in the market and no producer will charge a price below the market price.

iv. Large number of buyers and sellers

In a perfectly competitive market, there are large numbers of buyers and sellers. However, no single buyer or a seller can influence the market price of the commodity determined by the forces of market demand and supply. Thus, firms under this market structure are 'price takers'.

v. No transportation costs

Under perfect competition, it is assumed that transportation costs do not exist. This assumption helps to maintain a uniform price thorough out the market. If the transportation cost is considered, the uniformity of price cannot be maintained.

b. Monopoly

A Monopoly is a market structure in which there exists a single seller of the product. A monopolist is the sole producer of the product and upholds control over the entire market.

Features of Monopoly:

i. Single Seller

In a monopoly market, owing to a single seller of a product, any change in the amount of output produced by the monopolist would affect the market price. There is no distinction between the firm and industry in this market structure.

ii. Absence of Close Substitute

Usually, monopoly is a market devoid of competition. There will not be close substitutes of a product to maintain monopolism.

iii. Restrictions on entry of new firms.

There are certain barriers to the entry of new firms into the monopoly industry. The conditions that deter the entry of new firms are natural barriers, legal or human-made restrictions. These forms of barriers such as patent, copy rights, government laws and economies of scale prevent new firms from entering the monopoly market.

iv. Price Control

Monopolist is the sole producer of a product and takes the advantage of its control over the price. Apparently, it upholds a high market power and it is well-known as a price maker. Therefore, the consumers have to abide by the price set by the firm as there are no other sellers or close substitutes.

v. Possibility of Price Discrimination

Price discrimination prevails in a monopoly market owing to single seller and many buyers. Monopolist usually charges a single price for the commodity or may charge different prices for its product on various consumers. The practice of charging different prices for a particular product is called price discrimination.

Learning Activity 7.1: *Analyzing the power of giant monopoly*

Instructions:

Read the report below.

High charges shock consumers

Average billing system implemented without reading meters causes inflated electric bills. Many Thimphu residents were shocked when they received their electric bill after the lockdown, as those paying an average bill of Nu 1,000 a month had to pay Nu 6,000.

A Babesa resident said his electric bill for December to January was Nu 7,000. "I was shocked to see the bill. In the previous months, it ranged from Nu 500 to Nu 1,000." A civil servant complained that his bill was Nu 5,000. He claimed that he complained to Bhutan Power Corporation and the justification was that it was because of cumulative addition of energy consumption. "The justification didn't clear anything."

BPC officials clarified that the high energy consumption and average billing system implemented because of the lockdown caused high electric bills. The director for distribution services, Sandeep Rai, said meter readers could not move around during the lockdown and they had to implement an average billing system according to the company's Standard Operating Procedure.

"The average billing system was followed in the first lockdown as well," he said. "The average billing system is the billing based on the average consumption of the last three months." He explained BPC implemented the average billing system during the second lockdown and took the average energy consumption of September, October and November.

Sandeep Rai said that during the first lockdown, the months were warmer and the average power consumption was consistent. According to BPC's records, the average power consumption in Thimphu nine days after the second lockdown was 68.42 Megawatts (MW) and nine days prior was

64.24MW. The highest energy consumption was recorded on December 28 with consumption of 70.54MW. The consumption was around 70MW for three consecutive days and dropped to 69.89MW on the last day of the last year. Sandeep Rai said the highest consumption was recorded with 70MW, meaning the energy consumption was high. "The average consumption in December last year was about 65MW."

He said that the average billing system was a standard billing practiced across the world. The director claimed that the average billing system was a win-win situation for both consumers and BPC. BPC currently charges customers based on the supply of voltage level (low, medium and high voltage). Under low voltage, there are three blocks. Energy consumption between 0 to 100 kilowatt-hour (kWh), 101 to 500kWh and 500kWh falls under Block I, Block II and Block III respectively. Each Block has a different tariff rate that was multiplied by the energy consumed in MW by individuals.

Sandeep Rai said that according to the records, most consumers in Thimphu had the average consumption of more than 500kWh. He, however, said if people experienced an increase in their electric bills by more than 30 percent from their previous bills, they should visit the office. "An average increase of 25 to 30 percent is normal."

(Source: Kuensel Editorial, February 18th, 2021)

Answer the following questions

i) Identify the market structure and its few attributes indicated by the case study.

ii) What would be the impact of such action on different groups?

   a) Consumers

   b) Producers

   c) Government

   d) Economy

iii) What are some possible interventions that the government could initiate during such a scenario?

c. Monopolistic competition

Monopolistic competition is a market structure, which has blend of the elements of perfect competition and monopoly market. Hence, in a monopolistic competition, there are fairly large number of sellers selling differentiated but close substitute products.

Features of monopolistic competition:

i. Large Number of Buyers and Sellers

The number of sellers is fairly large but it is not unusually large. Therefore, each firm under monopolistic competition posses control over price-output policy to some extent. Here, any change in price-output policy of a firm is insignificant to rival firms, which indicates that each firm follows an independent price policy. They set their own price and initiate output decisions.

ii. Product Differentiation

Each firm is interpreted as the sole producer of its own brand. However, their product resembles partially with the competitor's product, but it is not a perfect substitute. Firms under monopolistic competition are involved in producing differentiated products, which provides liberty to determine its own price, yet firm has to face the competition.

iii. Free Entry and Exit of Firms

Like perfect competition, there is no hindrance for the entry of new firms and exit for the existing firms. There is freedom for new firms to produce close substitutes to the product produced by rival firms. Similarly, in case the existing firms sustain losses, some of the marginal firms are free to exit.

iv. Selling Cost

Every firm tries to promote the sale of its product through sales promotion such as advertisement, door-door service, discounts sale and combo-offer. The expenses incurred by the firm to promote the sale of its product is the selling cost.

v. Lack of Perfect knowledge

Producers and consumers do not have perfect knowledge about the products and factor services owing to availability of innumerable products, which are close substitutes of one another. The lack of information hinders the possibility to compare the price of different products and factor services. As such, the consumers purchase a particular product even if other less priced products of same quality are available. Similarly, producers will incur higher cost for the factor inputs.

d. Oligopoly

Oligopoly is a market situation where there are few firms selling homogeneous or differentiated products which leads to intense competition among the firms. This market is also referred to as 'competition among the few' and every seller influences the behavior of other firms.

Features of Oligopoly

i. Intense Competition

Usually, when few firms are visible in an industry, there will be intense competition. Every firm in this market structure is powerful to influence the market price, so any action taken by one firm will affect the rival firm. Therefore, every firm keeps an eye on the rival firms.

ii. Interdependence

Since there are few sellers in the oligopoly market, every decision taken by a firm will be confronted with a reaction by the rival firm. Therefore, they come to an agreement to respect the decision of the each other for mutual profit. Hence, there is interdependence among the sellers with respect to their price-output policies.

iii. Nature of the Product

Under oligopoly, the products of the firms are either homogeneous or differentiated. As such, firms producing homogeneous product are categorized as pure or perfect oligopoly and firms producing differentiated product are categorized as differentiated or imperfect oligopoly.

iv. Selling Cost

In the presence of severe competition and interdependence of the firms, ambitious producers initiate and operate various sales promotions to promote sales of the product. Therefore, selling costs are highly important for competing against rival firms for a larger market share. Firms under oligopoly rely more on non-price competition.

v. Entry Barriers

Oligopoly market maintains certain barriers such as government license, patents, economies of scale, high capital requirement and complex technology to make it difficult for other firms to enter the industry. In absence of such barriers, the oligopoly may not retain its characteristic of a few sellers in the long run.

Learning Activity 7.2: *Examining the market structure of Bhutan*

Instructions:

Examine the market structure of the products listed in Table 7.1 in Bhutanese context.

Table 7.1 Identifying Market structure

Products	Market Structure
1. Electricity	
2. Banking services	
3. Telecommunication services	
4. Groceries	

Questions

i) Discuss the most prominent features that you have considered while classifying the market structure for the products mentioned in Table 7.1.

ii) Do you think the market structure for these products would remain the same in about 10 years ? Justify.

iii) If you were to start a business in your locality, which kind of market structure do you think is the best? Why?

Review Questions

1. Identify the feature that makes monopolistic competition different from perfect competition.
2. In which market form, a firm cannot influence the price of the product?
3. Which type of market structure is predominant in Bhutan and why?
4. Which features of monopolistic competition are close to monopoly and which features are close to perfect competition?
5. For oligopoly firms to survive, what strategies should these firms adopt?
6. Which kind of market structure exist the most in the community you live? Give reasons for the existence of such market.
7. Compare the different types of market and explain how each market is different from one another?
8. Fill in the table 7.2 with appropriate answers.

Table 7.2 Market structures on the basis of comparisons

Basis of comparison	Perfect Competition	Monopoly	Monopolistic Competition	Oligopoly
Number of sellers	Very large number of buyers and sellers.	1…………………..	Fairly large number of sellers.	2…………………..
Nature of product	3…………………..	No close substitutes	4…………………..	Homogeneous or Differentiated product
Entry and exit of firms	Freedom of entry and exit.	5…………………..	Freedom of entry and exit	6…………………..
Demand curve	7…………………..	Downward slopping	8…………………..	Indeterminate demand curve.
Price	Price-taker	9…………………..	Partial control over price	10…………………..
Selling costs	11…………………..	No selling costs incurred	12…………………..	Huge selling costs are incurred.

Basis of comparison	Perfect Competition	Monopoly	Monopolistic Competition	Oligopoly
Level of knowledge	Perfect Knowledge	13……………….....	Imperfect Knowledge	14…………………....
Nature of existence	15…………………....	Elements of monopoly exist.	16……………….….....	Do exists.
An example	Famers produce	17……………….....	Bhutan Taxi Services and Restaurants.	18……………….…..

Chapter 8

Economic System

Learning Objectives

1. Explain different economic systems with examples
2. Discuss prominent features of Bhutanese economic system.

8.0. Introduction

There are different types of economies around the world and each has its own distinguishing characteristics, although they share some basic features. Some examples of economies are simple and complex economies, closed and open economies, agrarian and industrial economies, developed and developing economies, capitalist and socialist economies. The type of economies that a country has is determined by the extent of government involvement in carrying out economic and non-economic activities. Thus, this chapter aims to explain the underlying principles and structures of different economic system.

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8.1. Economic System

An economic system is a system of production, resource allocation and distribution of goods and services in the society. It is a means by which societies or governments organize and distribute available resources, services, and goods across the country. It is the way in which a society uses its scare resources to satisfy its people's wants. Different economic system use different methods to address the problem of choice and scarcity. In real world situation, scarcity is a fact of life that every economy faces. To address the problem of scarcity in a society, the economic system answers three fundamental questions: What should be produced? How should it be produced? For whom be produce? Thus, an economic system is a set of principles based on which an economy can function and make decisions about resource allocation.

8.2. Types of Economic Systems

The classification of economies based onhow economic problems are addressed. It has three categories;

a. Capitalist Economic System

A capitalistic economy is one in which the productive resources are owned and used by private individuals. As capitalistic economies are featured by no or minimum state intervention, the economic activities are mostly unplanned and uncoordinated. A capitalistic economy is also known as a free enterprise economy, market economy, and laissez-faire economy.

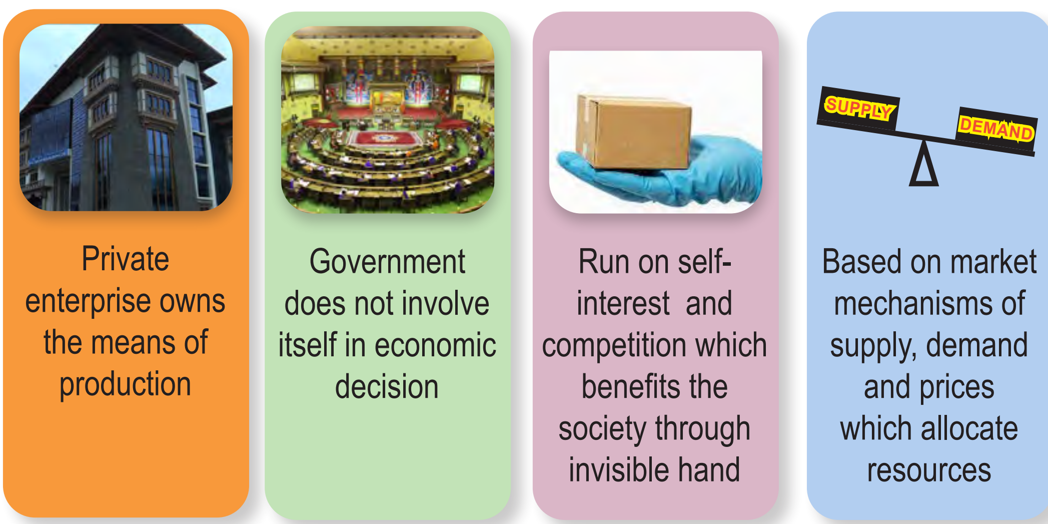

Figure 8.1: Capitalist Economic System

Features of capitalist economy

i. Right to private property

Right to private property is one the essence of capitalism. Every individual can acquire any amount of property and can use these properties as they wish. They have the right of inheritance.

ii. Price mechanism

Price mechanism is like an invisible hand that controls the workings of a capitalist economy. The market forces of demand and supply determine the prices of products and the level of productions in a capitalistic economy. Thus, price mechanism is the basic coordinating mechanism in a capitalistic economy.

iii. Profit motive

Profit motive is at the heart of a capitalistic economy. Profit motivates producers to undertake all types of economic activities in a capitalistic economy.

iv. Freedom of enterprise

In capitalism, consumers and producers are free to make economic choices without any intervention by the state. The private enterprises are free to use productive resources for the production of a product of their choice and are free to choose any occupation according to their education, talent, ability and efficiency.

v. Competition

Capitalistic economy is characterized by high degree of competition, both in product market and factor market. In the product market, producers compete with each other to sell their goods and services, and similarly in the factor market, the resource owners compete among each other to sell their factor services.

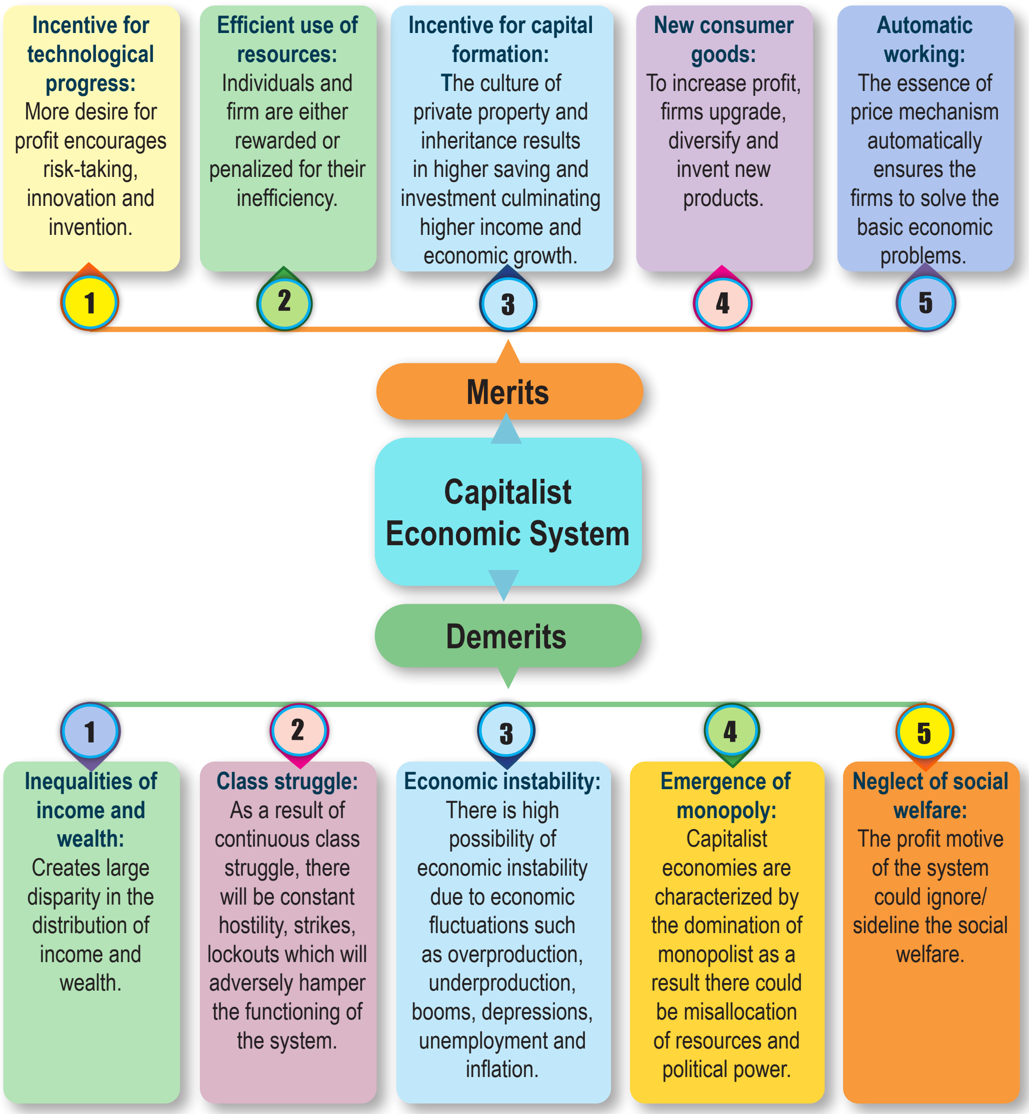

Figure 8.2: Merits and demerits of Capitalist Economic System

b. Socialistic Economic System

In a socialistic economic system, the means of production are owned by the entire society and operated by the public authority according to a general economic plan for the benefit of the entire society. The government makes decision on solving central problems of an economy and allocates those resources according to their need.

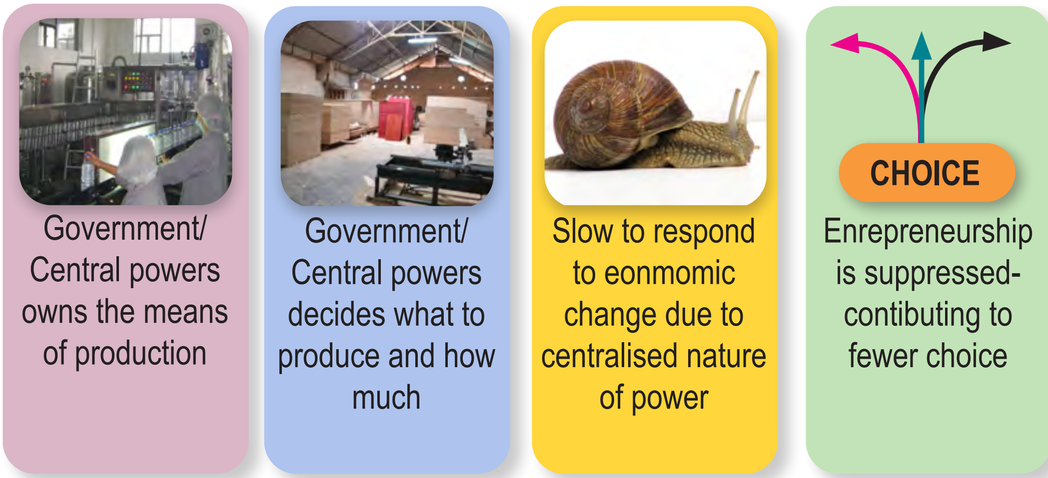

Figure 8.3: Socialistic Economic System

Features of Socialist economy

i. Collective ownership of resources

In socialist economy, the entire foundation is based on socio-economic objectives. The welfare of the people takes priority over profit motive. All the productive resources are owned and controlled by the state.

ii. Central economic planning

In a socialist economy, there is a central planning agency that is responsible for setting economic goals. The central planning authority allocates all productive resources according to a definite plan in accordance with social and economic objectives. Planning replaces the price mechanism in a socialist economy.

iii. Social welfare

Social welfare is the main motivating force behind all economic activities in a socialistic economy. The motive of social welfare replaces the profit motive of capitalism. A socialistic economy seeks to maximize the interest and welfare of the entire society rather than focusing on individual interest and profit.

iv. No choice for consumers

In a socialist economy, every citizen is guaranteed basic needs like food, clothing, shelter but consumers do not have total freedom of choice. Consumers cannot demand the products they desire; they must choose from the products the state manufactures.

v. Economic equalities

Socialistic economy aims at bringing equity in the distribution of income, wealth, and opportunities in the economy. To attain absolute equality is neither feasible nor desirable however, socialist economy strives to reduce inequalities in every possible aspect.

vi. Elimination of competition

As the government has monopoly in production of all types of goods, there is no scope of competition and rivalry among different production units. Therefore, this economic system eliminates all types of competitions and establishes a spirit of cooperation and mutual goodwill among the people.

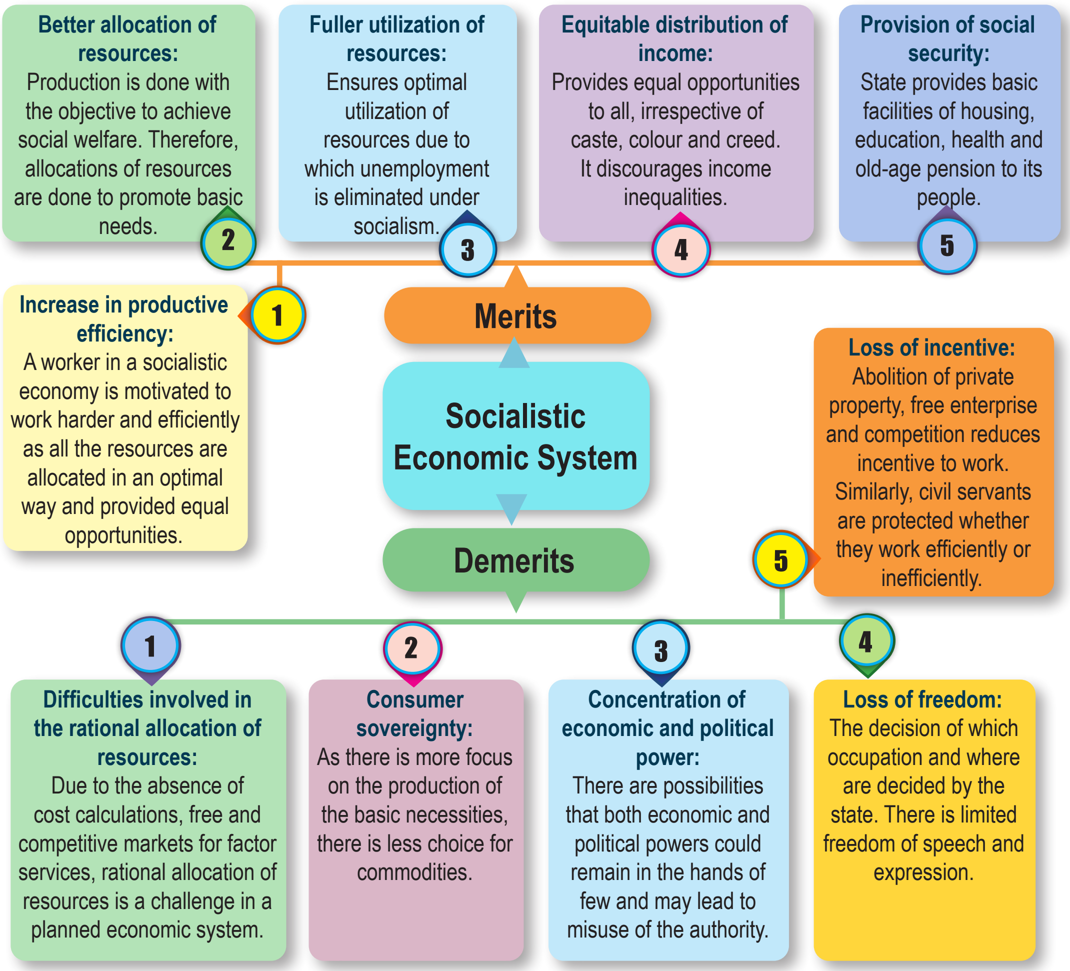

Figure 8.4: Merits and demerits of Socialistic Economic System

Table 8.1 Differences between Capitalistic and Socialistic economic system

Basis	Capitalism	Socialism
Ownership	Assets owned by private firms	Assets owned by government / co-operatives
Equality	Income determined by market forces	Redistribution of income
Prices	Prices determined by demand and supply	Price controls
Efficiency	Market incentives encourage firms to cut cost	Government owned firms have fewer incentives to be efficient
Taxes	Limited taxes/limited government spending	High progressive tax/ higher spending for public services
Health care	Health care left to free market	Health care provided by government free at point of use
Problems	Inequality, market failure, monopoly	Inefficiency of state industries, less incentives
Advantages	Dynamic economy, incentives for innovation and economic growth	Promotion of equality, attempt to overcome market failure

Learning Activity 8.1: *Examining the socialistic and capitalist economy*

Questions

i) Does socialism attempt to raise up the poor section of the economy or simply bring down the rich?

ii) Explain how private property right and market place competition is different in capitalist economy and socialist economy.

c. Mixed Economy

A mixed economy is a combination of different types of economic system. It has features of both market and planned economy. The idea of mixed economic system is to incorporate the best policies that prevail in socialist and capitalist economy. Most of the countries around the world are following mixed economic system.

Figure 8.5: Mixed Economic System

Features of Mixed economy

i. Coexistence of public and private sector

Mixed economy is featured by the existence of both public and private sectors. Public sector represents that part of the economy, which is operated and managed by the state, or the government of a country. While the private sectors includes that part of the economy which is owned, managed, and operated by private individuals. Public and private sectors work together to achieve the national goal of the country.

ii. Government regulation and prices

In a mixed economy, state interferes in the market to regulate prices. Governments provides subsidies to encourage production of necessities and as a result of such arrangements, it leads to supply of products at cheaper rate to low income group of the population.

iii. Government regulation and market imperfection

Government intervenes in industries where cartels are formed. It disallows cartels and regulates the functioning of oligopoly, and monopoly. The government sometimes set a price ceiling for goods and services to put check on monopolies and reduce the burden of inflation on poor people.

iv. Regulation and control of the private sector

Government plays an important role in regulating private sectors in a mixed economy. Normally, government regulates private sectors through taxation, subsidies, monetary and licensing policies.

v. Government intervention and income distribution

Government intervenes to redistribute income through progressive taxes, setting price ceilings for necessities and setting minimum wages in the mixed economy. The government also provides tax holidays, tax credits, tax rebates and other concessions and incentives to promote a particular social and economic activity.

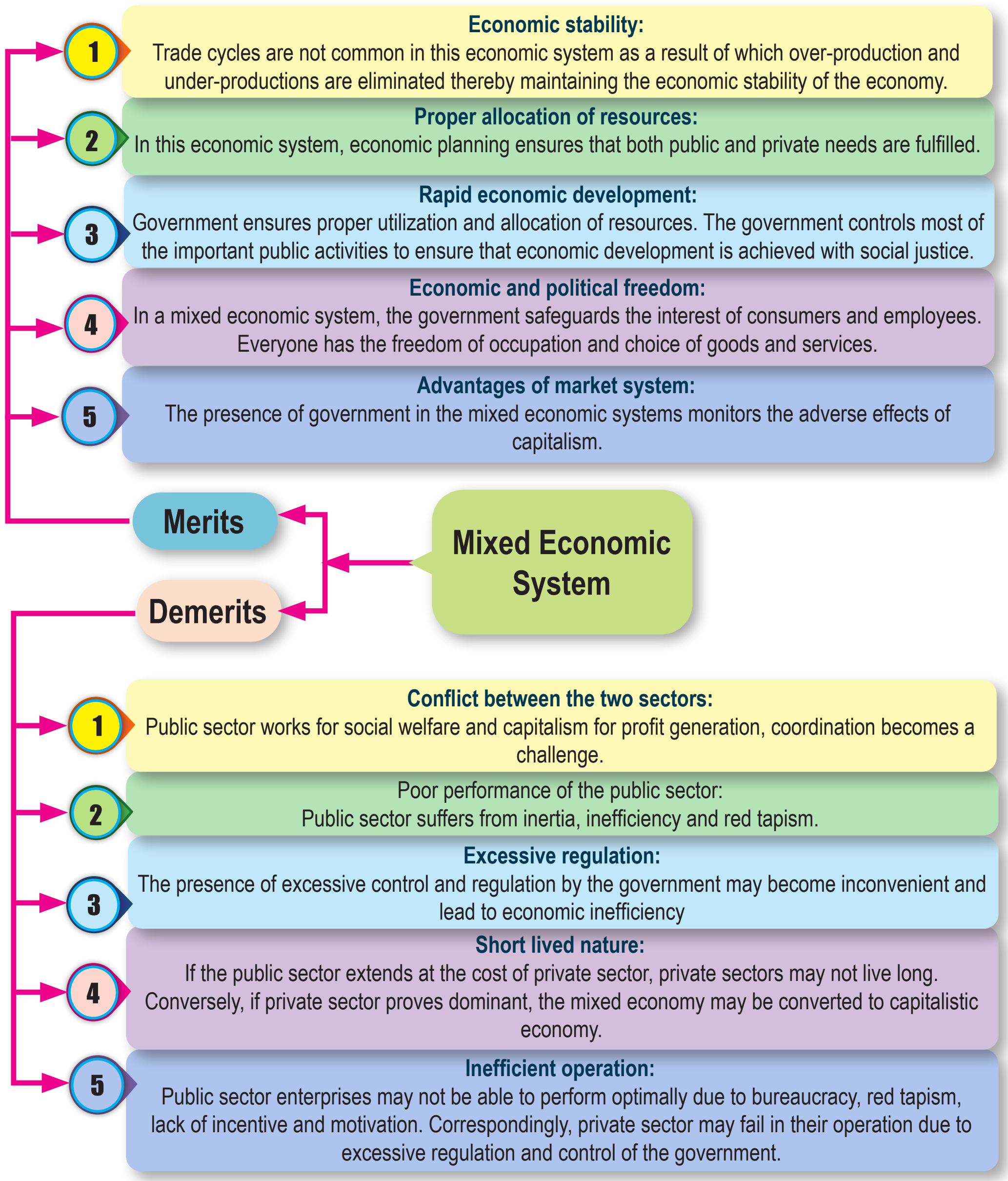

Figure 8.6: Merits and demerits of Mixed Economic System

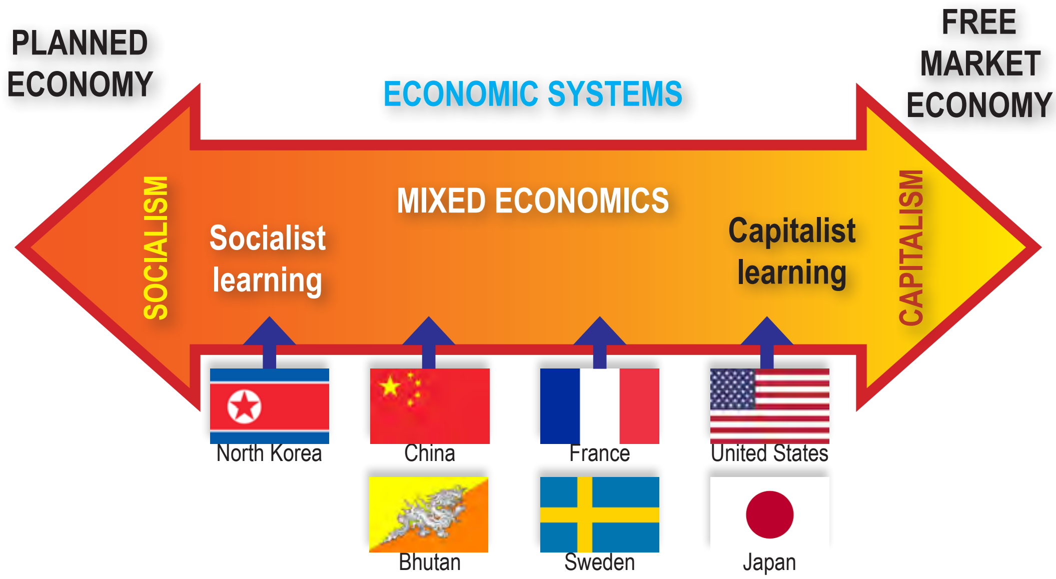

Figure 8.7: Types of Economic System

8.3. Bhutanese Economic System

Most of the economies around the globe have the blend of features of capitalism and socialism, with varying inclination towards either of the two. The economy of Bhutan is developing mixed economy with middle income. Its development process has been continuing through five-year plans since the first plan period in 1960s. Both public and private sector play a vital role in economic development of the country. While public sector plays an important role in reduction of economic inequalities and promote general welfare of the country, private sector is considered as an engine of economic growth in terms of revenue generation, employment opportunities and diversification of economic activities.

The salient features of Bhutanese economic system:

a. Co-existence of public and Private sector:

In the Bhutanese economy, the public and private sector operates side by side. Public sector carries out those activities which would require huge investment and is beyond the capacity of the private sectors or which involves very low returns. To sustain high economic growth and make the growth more inclusive, the government encourages private sector development. It can also help to broaden its economic. Those activities which are more profitable and involves less risk are undertaking by the private entities.

b. Economic planning:

The Bhutanese economy is a planned economy as it believes in the concept of planned economic development. All the developmental activities are carried out according to the central economic plan- Five Year Plan (FYP). The FYP is formulated by the central planning authority called as Gross National Happiness Commission for equitable and sustainable socio-economic development. Its development process has been continuing through five-year plan since its inception in 1961.The overarching goal of every five year plan is to strive towards Bhutan's long term goal of GNH.

c. Role of public sector:

The public sector provides social and economic overheads such as technical institutions, hospitals, schools, roads and bridges which are not the interest of private sector because of poor returns or heavy investment required. The government also looks into the balanced regional development as private sector doesn't take risk to invest in underdeveloped regions. Public sector plays a vital role in bringing about optimum resource allocation so that economic development is promoted whereas private sector misallocates the resources due to their profit motive.

d. Role of private sector:

The role of private sector is considered crucial and critical for the country's economic growth and development. As such the government has accorded the highest priority for the growth of this sector in Bhutan. Private sector is a key stakeholder for both urban and rural economy due to its efficiency in creating more employment opportunities, provide income security to families, promote small and micro enterprises, bringing new and innovative solutions to the market and, most importantly supplementing the national income. However, it is yet to see sustained meaningful benefits as the sector is beset with multiple challenges. The government is consistently working with multiple donor agencies and amending rules and regulations in favour of private sector, as private sector growth and development has long been a key government agenda for promoting economic diversification and enhancing self-reliance.

e. Check on economic inequalities:

Like in any other mixed economic system, Bhutan government takes several measures to reduce inequalities through fiscal policies such as taxation and government spending. Progressive taxation on income and wealth, various concessions on taxes and services, old age pension, free medical facilities and free education are also provided to improve the living standard and promote livelihood of people. The Government endeavours to develop private sector and CSIs to generate more income and employment opportunities.

f. Right to private property:

In Bhutan the ownership of the private property is allowed. People own production houses, means of production and has right to income. However, the government pursues to maintain equal distribution of income and wealth so that the profit and property is not concentrated in the hands of few individuals. To curb this, the government owns certain crucial assets like mining, forest and rivers as state owned properties.

g. Price Mechanism and Controlled Price:

Like in any mixed economy, the price mechanism and regulated price operate simultaneously. The forces of market determine the prices of most of the consumer goods. However, the prices of some essential goods like petroleum, LPG and lubricants are regulated by the government. The government also regulates the price during the time of shortages and national emergencies.

Learning Activity 8.2: *Exploring the Bhutanese economy*

Instruction:

Explore additional features of mixed economic system to relate with Bhutanese economic system and answer the questions given.

Questions

i) What are some of the notable features of Bhutanese economic system, other than the one mentioned? Discuss.

ii) Different countries follow different economic system to solve the basic economic problems. As a country of GNH, which economic system would you recommend? Write your choice with justifications.

Review Questions

1. Write the most appropriate answer

   a) An ________________ is the way in which a society decides to answer these three economic questions.

   b) A capitalist economy uses price mechanism, a socialist economy uses central planning and a mixed economy uses ___________________ to solve its basic economic problems.

   c) Most of the economic systems in the world today are ______________.

2. Every society must decide how to organize economic activity. This choice involves trade-offs. Economists have developed economic models to help us understand the benefits and costs we face when choosing to organize our economy in a particular way. Although no country on earth adheres entirely to one economic system model, understanding the assumptions underlying a planned system and a pure market system can clarify the choices.

   a) Identify the three basic economic questions every society must answer.

   b) Describe how a pure market economy answers these questions.

3. Why there is no pure free market economies in the world?

4. How does the idea of economic equity help the following groups to make economic decision?

   a) Government

   b) Producers

   c) Consumers

5. Do you see the prevalence of mixed economic system in Bhutan? Give five reasons to support your answer.

6. Suggest some ideas how the prevalence of mixed economic system promote and protect Bhutanese culture and heritage?

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Chapter 9

Economy of Bhutan

Learning Objectives

1. Examine the features of Bhutanese Economy to forecast scope.
2. Explainthechallengesfacedby theBhutaneseeconomyandsuggestremedial measures.
3. Explain the role played by the Primary, Secondary and Tertiary sectors of the economy for economic development.
4. Analysethetrendofcontributionmadebyeconomicsectorstothe Bhutanese Economy.
5. Explain the rationale of initiating Five-Year Plans in Bhutan.
6. Discuss the Guiding Principles of Five-Year Plans.
7. Explain the objectives of the recent Five-Year Plan and analyses the reasons for prioritizing those areas.

9.0. Introduction

Bhutan opened itself to the outside world in the 1960s, after which modern development began . Ever since, the country's economy has been growing. The Bhutanese economyis influnced by the unique development philosophy of Gross National Happiness (GNH) envisioned by the fourth Druk Gyalpo. The overall wellbeing of the people over materialistic possessions is the cornerstone of this philosophy.

The Bhutanese economy, as of now, is predominantly dependent on hydropower, tourism and agriculture. The chapter discusses the features, challenges, planning and role of economic sectors of Bhutanese economy to comprehend the country's level of economic development.

9.1. Features of Bhutanese Economy

a. Per capita income:

One of the features of the Bhutanese economy can be explained based on the per capita income. In Bhutan, per capita income is in increasing trend indicating the progressive development of the economy. Per capita income is the average income of a country in a year. The per capita income is estimated to evaluate the living standard and quality of life of the population. The data on per capita GDP will help to understand the extent of economic progress of Bhutanese economy.

b. Infrastructure:

Ever since the commencement of first Five Year Plan, Bhutan has progressed significantly in achieving basic infrastructures. Infrastructures are the basic physical and organizational structure and facilities required for the operation of the economy. The infrastructure includes transportation and communication facilities, electrification, banking and credit facilities, health, and education. Bhutan has a potential in developing the infrastructure and accordingly the government strives to develop the infrastructure to boost the economy.

c. Rate of Capital Formation:

The capital formation in Bhutan has been progressive over the past years. The Capital formation is the addition to national assets such as building, machinery, equipment, vehicles, tools, and any other assets. Rate of capital formation is directly proportional to gross domestic saving. Capital formation leads to an increase in the size of national employment, income and output. Thereby, indicating economic growth of a country.

9.2. Challenges faced by the Bhutanese Economy and the Remedies

Bhutan is one of the fastest growing economies in South Asia. However the challenge remains for Bhutan to diversify its economic base and make growth more inclusive.

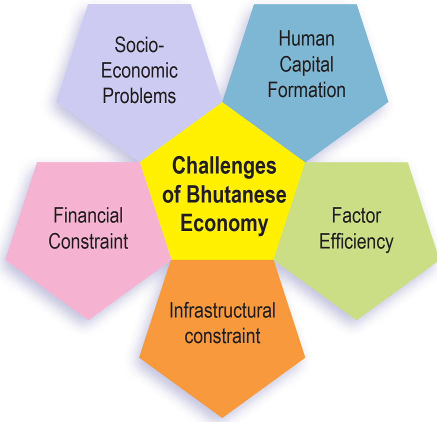

Figure 9.1: Challenges of Bhutanese Economy

Learning Activity 9.1: *Examining the features and suggesting measures to address challenges of Bhutanese Economy*

Instructions:

Explore relevant data of the last five years to examine the trend of following features of Bhutanese economy.

a) GDP per capita
b) Capital formation
c) Balance of Payment
d) Sector contribution to GDP
e) Rate of Unemployment

Questions

i) Represent the information in a line graph and interpret the trend.

ii) Identify challenges faced by Bhutanese economy in view of its features and discuss their causes.

iii) Suggest some measures to address the challenges.

9.3. Role of Economic Sectors

The economy is divided into three sectors based on the nature of economic activities.

a. Role of Primary Sector

This sector is the base for all economic activities of other two sectors.

i. Source of raw materials:

Primary sector is considered as the source of raw materials to the manufacturing industries. It provides minerals and agricultural products for producing other commodities to the industrial sector.

ii. Provides food grains:

The major source of food grains in the economy is the agriculture sector. Thus, economy is able to promote self-sufficiency and healthy living.

iii. Employment Opportunities:

In Bhutan, agriculture is the main source of employment; majority of the population is engaged in agriculture sector. Primary sector is one of the sectors, in the economy that generates more employment for the growing population.

iv. Market for Capital Goods:

This sector provides market for large industrial products. There is huge demand for industrial product from rural area since more than half of the population live in rural area.

v. Share in National Income:

The certain share of GDP of a country comes from the primary sector. However, its contribution to GDP is less compared to other two sectors.

b. Role of Secondary Sector

This sector adds value to the output of the primary sector.

i. Supply of finished goods:

Secondary sector processes the raw materials into finished products. It supplies a variety of capital and consumer goods in the economy.

ii. Provision of infrastructures:

It is the secondary sector that provides infrastructures such as transport, power, and capital goods (machinery) to foster the growth of other sectors. As a result, the productivity and efficiency increases.

iii. Industrialization:

The secondary sector brings about industrialization and increases the country's production capacity. It makes large scale production and goods are made readily available.

iv. Increase saving and investment:

Industrial sector enhance the income of the people. It directly increases the saving capacity of the people. Saving is the source of investment, higher the saving, higher will be the investment.

v. Scope for technological progress:

This sector provides larger scope for technological advancement. The use of advanced technology increases the scale of production and reduces cost of production.

c. Role of Tertiary Sector

The contribution to GDP by the service sector has been growing at a faster rate as compared to other two sectors.

i. Improve living standard:

Through the provision of services like health, education, transport, and communication, the tertiary sector helps in improving the living standard of people.

ii. Promote economic interaction:

Tertiary sector connects different sectors of the economy and facilitates the constant flow of information and goods to all. It gives more importance in enhancing interactions between people and different economic units.

iii. Human resource development:

For the development of human resource, it provides various services like education and health. Moreover, with access to modern communication networks, people are able to learn many new things.

iv. Promote international trade:

A well-developed tertiary sector helps to expand trade with foreign countries. For instance, the development of tourism industry in Bhutan is mainly due to progress in hotel services, infrastructures and easy banking systems.

v. Aids other sector:

This sector helps the other two sectors in production, distribution and consumption of various goods and services.

9.4. Trend of Contribution made by Economic Sectors

Learning Activity 9.2: *Analysing the trend of contribution by economic sectors to GDP in Bhutan*

Instructions:

1. Explore the percentage share of primary, secondary and tertiary sector to the GDP in the last five years. (Collect the data from a relevant source)
2. Present the data in the form of Table 9.1:

Table 9.1 : Percentage share of economic Sectors to GDP

Year					
Primary sector					
Secondary Sector					
Tertiary Sector					

Questions

i) Using the data in the table, draw a bar graph to compare the trends of contribution of the different economic sectors.
ii) Explain the trend of each sectors' contribution to GDP for the last five years.
iii) Compare the contributions of the three sectors and examine the factors, which could have influenced their contributions to GDP.
iv) Apparently, most of the youths do not prefer to work in the agriculture sector. Write a short report mentioning the opportunities and importance of agriculture sector to encourage people to work in the agriculture sector.

9.5. Five-Year Plans in Bhutan

Five Year Plan outlines the socio-economic development, priorities and programmes to be implemented over a period of five years. The Five-Year Plan sets critical targets that will be achieved through various programmes and developmental activities that are monitored on a regular basis. It also provides the basis for resource allocation and planning. There is a mid-term review to assess progress in the middle of the Five-Year Plan and a final terminal review.

Rationale of initiating Five-Year Plan in Bhutan

After a long period of isolation, Bhutan felt the need to open up to the outside world and commence modern development. Therefore, the country started its first Five Year Plans in 1961 under the guidance and leadership of His Majesty the third, King Jigme Dorji Wangchuck. The rationale behind initiating the Five-Year Plans were to:

1. develop social sectors and infrastructure of the country.
2. develop and expand industries and mining regions.
3. develop the agricultural sector and increase the productivity of agriculture.
4. preserve the unique culture and environment of the country.
5. develop the human resources of the country by providing basic education, health and trainings etc.
6. encourage privatization and private sector development.
7. strengthen the government administration and make it stronger with more people's participation.

Guiding Principles of Five-Year Plans

Guiding principles of Five Year Plans are the underpinning theoretical philosophy based on which the Five Year Plans are developed. Bhutan's economic development continues to be guided by the overarching philosophy of Gross National Happiness.

Guiding principles differs from one five year plan to another five year plan. For example, inspiration and anchor for the 12th five year plan is drawn from the following;

1. Royal addresses
2. Constitution kingdom of Bhutan
3. Vision 2020
4. Strategy for GNH
5. 2015 GNH survey result
6. International goals such as Sustainable Development Goals. (SDG)
7. Stakeholder consultations

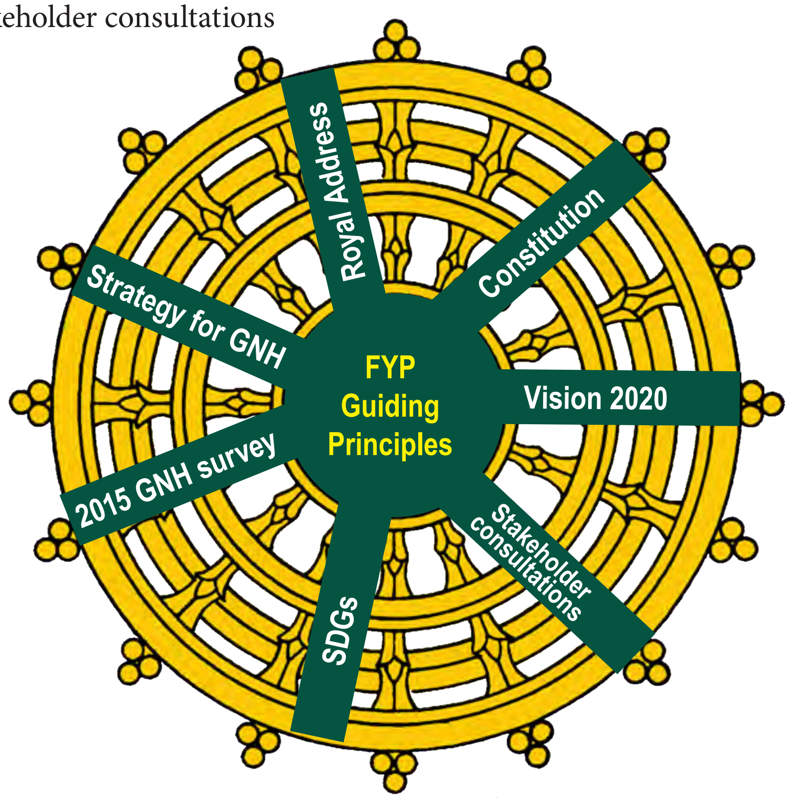

Figure 9.1: Guiding Principles of Five-year Plans

Learning Activity 9.3: *Exploring the objectives of current Five-Year Plan*

Instructions:

In groups, refer the current Five-Year Plan document and discuss its objectives.

Table 9.2 : Percentage share of economic Sectors to GDP

Year					
Primary sector					
Secondary Sector					
Tertiary Sector					

Questions

i) Explain in brief the objectives of Five-Year Plan.

ii) Give some examples of activities carried out under each objective.

iii) What could be some of the reasons for prioritizing those identified areas?

iv) What would be some possible consequences if GNH were not integrated in Five Year Plans?

Review Questions

1. Fill in the blanks
   a) The average income of an individual is ………………………………
   b) Bhutan's Five-Year Plans is giuded by……………………………
   c) The sector which provides jobs to most population is…………………..
2. What are some of the challenges faced by Bhutanese Economy at current situation?
3. Why do you think should the are Five Year Plans be guided by philosophy of Gross National Happiness? Explain any one of them.
4. According to you, which sector is important. Why?
5. Self-reliance is one of the objectives of Five-Year Plans. Formulate ONE practical method for achieving it.
6. The country has seen a great socio-economic development in different sectors over the years. Provide some examples of recent development in education sector.
7. Why do you think the government expenditure has been escalating over the Five Years Plans in Bhutan?

Chapter 10

Human Capital Formation

Learning Objectives

1. Draw relationship between population and economic development;
2. Analyse the role of human capital in economic development;
3. Discuss the components (health and education) of human capital formation;
4. Define entrepreneur;
5. Discuss the attributes of an entrepreneur;
6. Explain the role of an entrepreneur.

10.0. Introduction

The human capital theory first started as a neoclassical theory of growth known as 'physical investment theory'. It showed the output per unit of labour increases as a result of growth in physical capital. This theory maintains that the growth of output is directly proportional to the rate of physical investment.

Robert Solow pointed out that the neoclassical theory of growth could explain only about one third of the observed growth in output and considered the remaining as 'residual factor'. This residual factor was later explained as a result of improvement in the quality of labour and techniques. So, the attempt to explain the improvement in quality of labour led to the introduction of human capital theory.

The concept of human capital formation gained immediate attention among policymakers. In Bhutan, as it champions the development philosophy of Gross National Happiness; education, health and psychological wellbeing are considered as vital factors for the socio-economic development of the nation. Bhutan's highest expenditure on education and health indicates the importance of human capital formation to achieve the nation's vision of creating a Knowledge-based Economy.

This chapter discusses the components and the importance of human capital formation.

10.1. Relationship between Population and Economic Development

Population growth and economic development are closely related to each other. The population is like a double-edged sword for it might either promote or retard economic development. Kremer's population theory propounds that world population growth is a key driver for economic prosperity. If the population is high, there will be more inventors, scientists, economists, entrepreneurs, engineers and other professionals contributing towards innovation and technological progress. On the other hand, Malthusian theory of population argues that population growth is a threat to raising the living standards and human beings would remain under poverty.

10.2. Human Capital Formation

Traditionally, capital was defined only in terms of physical or non-human capital. Development economists define capital by combining both physical and human capital in a broader sense. Human capital is a stock of knowledge, skills, ability and physical capacity of the people in a country to undertake the process of development. Thus, human capital formation is defined as the process of adding to the stock of human capital over time. The growth of physical capital accumulation is based on human capital formation.

Difference between Physical Capital and Human Capital

Basis	Physical Capital	Human Capital
Meaning	Produce goods used for the production of other goods.	Investment in education, skills and health of people (i.e. process of adding to the stock of capital)
Nature	Tangible and can be sold in the form of goods	Intangible and can be sold in the form of service
Ownership	Separable from its owner	Inseparable from its owner
Mobility	Mobile between countries but sometimes restricted by artificial trade restriction	Mobile between countries but sometimes restricted by nationality and culture
Formation	It can be within the country or through import	It can be done through conscious policy formulation
Depreciation	Depreciates over time due to changes in technology or due to constant use	Depreciates with ageing and absence of continuous investment in education and health
Benefit	Creates private benefit	Creates both private and social benefit

Components of Human Capital Formation

Components of human capital formation include investments in education, health, migration, acquiring information and on the job training. Of all, education and health are the most important components of human capital formation.

Human capital formation is based on the idea that education and health are an integral part of human well-being, where literate people can lead a healthy life with longevity and increased productivity. Expenditure on education and health is a long-term investment for efficiency and growth enhancement.

a. Education

Past experiences show that nations that invested in education were able to create skilled and qualified human resources which transformed the national economy. The huge investment and up-gradation of the education system have resulted in the rise of the so called Four Asian Tigers- Hong Kong, Singapore, South Korea and Taiwan.

Recognizing the importance of education, the Royal Government of Bhutan has accorded the highest priority in education since the inception of the Five-Year Plan in 1960s. As a result, human capital drives socio-economic development in the country and thrives in an ever-changing global scenario. The constitution of the Kingdom of Bhutan states that “the state shall provide free education to all children of school-going age up to the tenth standard and ensure that technical and professional education shall be made generally available and that higher education shall be equally accessible to all on the basis of merit”.

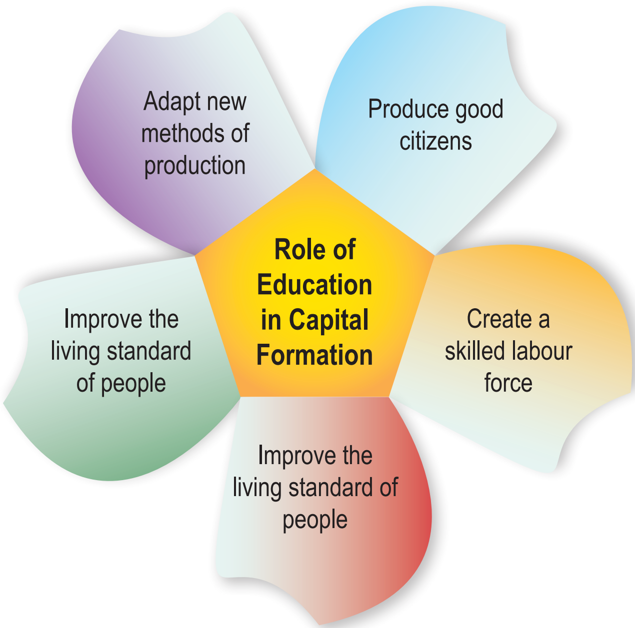

Figure 10.1: Role of education in capital formation

b. Health

Health is an important factor of human capital formation. Healthy people are an asset to the nation because greater health may improve the return to education. A healthy person can work efficiently and contribute better to the developmental process. Therefore, Bhutan recognizes health as a prerequisite for economic and spiritual development.

The Royal Government of Bhutan continues to accord high priority in the provision of universal access to free health care. Section 21 and 22 under Article 9 of the Constitution of the Kingdom of Bhutan states that "the state shall provide free access to basic public health services in both modern and traditional medicines" and "the state shall endeavour to provide security in the event of sickness and disability or lack of adequate means of livelihood for reasons beyond one's control".

Role of Human Capital in Economic Development

Human resource is the precious of all resources. Human resource is both the "means and ends" of production. This is because it is used as an input to produce goods and services and is also the ultimate consumer of goods and services in the economy. With limited investment in human capital, there would be a slow pace of economic growth and development. Realizing the importance of human resource development, the government invests huge financial resources to enhance the quality of human resources.

Human capital formation accelerates the process of economic growth and economic growth raises the process of human capital formation. Some of the roles of human capital formation are :

c. Innovation and Invention

Innovation is the lifeline for economic growth and development. Innovation leads to the invention in all disciplines and professions. Therefore, human capital formation is a very important tool for introducing new ideas, methods and products to increase production and productivity.

d. Productive Capacity

Human capital formation increases the productive capacity of the economy. Skilled labours can update and use modern techniques of production. They can develop new techniques of production and also modify imported techniques of production in their local context. Better human capital formation produces competent human resources for the developmental process.

e. Labour efficiency

Human capital formation is important to increase the efficiency of labour. Knowledgeable and skilled labours are more efficient than illiterate and unskilled labours. The availability of easy health care further increases the stamina and physical capacity of the labours.

f. Change in perspective

Human capital formation brings more economic changes in society. With education, the traditional mind set, attitude and beliefs of the people are replaced by modern mind set, attitude and belief and do not resist change. Education makes people aspiring, goal-oriented and informed decision-makers. An educated person also participates well in the democratic process and makes effective contribution to the socio-economic progress of a nation.

g. Greater returns

Human capital formation helps to earn higher future income and greater returns. Without human capital, physical capital such as roads, hydropower plants, hospitals, industry, colleges, schools and institutions cannot be utilized productively.

Human capital formation creates more job opportunities, increases literacy rate, life expectancy and per capita income.

Learning Activity 10.1: *Human Capital: Investing in Yourself for Your Future*

Instructions:

Read the anecdote of Nima and Dawa from their school days.

> Nima and Dawa have been good friends since the seventh standard and they joined the Home Science Club in school. After their twelfth standard, they discontinued their education to start their separate businesses. With the knowledge, they had acquired in cooking from the club, they individually opened their own restaurants. While in school, Nima was a hardworking student. She did well in her studies and also participated in co-curricular activities at the school. On the other hand, Dawa was not as hard working as Nima and always shied away from co-curricular activities. Nima was also very health conscious, so she avoided junk food, ate her meals on time and played sports during her leisure time. Thus, she seldom fell ill. She was always healthy and active.

Questions

i) Assume that both Nima and Dawa started their businesses after the twelfth standard with the same amount of capital. In the light of the observable conduct of their schools days, who do you think is likely to be more successful in the business that they have ventured into? Why?

ii) School years are very crucial for the character formation of children. Discuss some of the personal satisfaction that Nima and Dawa will derive in terms of the following factors:

a) personal growth;

b) availing opportunities for advancement in business;

a) confronting challenges and succeeiding business.

iii) Discuss how you are going to build your human capital in the school to prepare yourself to become a productive citizen?

Know More

A knowledge-based economy is defined as "an economy that is capable of knowledge production, dissemination and use; where knowledge is a key factor in growth, wealth creation and employment, and where human capital is the driver of creativity, innovation and generation of new ideas, with reliance on Information and Communication Technology (ICT) as an enabler". Knowledge is recognized as the driver of productivity and economic growth. Knowledge is embodied in human beings as "human capital".

The government, policymakers, bureaucrats and professionals are aiming to transform Bhutan into a knowledge-based economy through education and ICT. Billions of Ngultrums have been invested in education and ICT to move into a technology driven economic growth and social development.

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Learning Activity 10.2: *Analysing the significance of social system on human capital formation*

Instructions:

Read the article given in below and relate it to human capital formation in the current Bhutanese social system.

What can we learn from Denmark?

Today in the United States there is a massive amount of economic anxiety. Unemployment is high, wages and income are low, millions are struggling to find affordable health care and the income inequality gap is widening.

Denmark is a small, homogenous nation of about 5.5 million people and social policy in areas like health care, child care, education and protecting the unemployed are part of a "solidarity system" that makes sure that almost no one falls into economic despair. Danes pay very high taxes, but in turn, enjoy a quality of life. While it is difficult to become very rich in Denmark no one is allowed to be poor. Their minimum wage is about twice that of the United States. Health care is universal, free of charge and high quality. Everybody is covered as a right of citizenship. Their health care system is popular, with patient satisfaction much higher.

When it comes to raising families, Danes understand that the first few years of a person's life are the most important in terms of intellectual and emotional development. They support expecting parents; mothers get paid leave before and after giving birth. Fathers get two paid weeks off, and both parents have the right to 32 more weeks of leave during the first nine years of a child's life. The state covers three-quarters of the cost of child care, more for lower-income workers.

All higher education in Denmark is free. It includes college, graduate and medical school. Recognizing the volatile economy, it invests in training workers to learn new skills to meet changing demands. It provides adequate income to those who lose jobs while they search for new jobs. Every worker is entitled to five weeks of paid vacation plus 11 paid holidays to provide family time.

Recently the Organization for Economic Cooperation and Development (OECD) found that the Danish people rank among the happiest in the world.

The Danish social model did not develop overnight. It evolved over decades and, in general, has the political support of all parties. Danes are, politically and economically engaged and informed people. In their last election, 89 percent of Danes voted despite any TV ads.

They have a very different understanding of what "freedom" means. They have gone a long way to ending the enormous anxieties that comes with economic insecurity by developing a system that guarantees a strong minimal standard of living to all.

(Source: Sanders, 2013)

Questions

i) What is the secret behind Denmark's remarkable social system as per the article in Figure 10.2?

ii) Compare the social services provided in Bhutan and Denmark.

iii) Create an ideal social system to promote human capital.

iv) How is Human Development Index (HDI) related to human capital formation?

v) Find out Bhutan's latest HDI ranking and suggest some measures to improve the HDI rank.

vi) Explain how a just and fair social system would help in human capital formation with three examples.

10.3. Entrepreneur

Entrepreneurs play a significant role in the economic development of a nation. An entrepreneur is a person who sets up a new venture, take risks in the hope of earning profit. They are often known as a source of new ideas, innovation and invention. The act of being an entrepreneur is known as entrepreneurship.

Features of Entrepreneur

Today, any individual possessing the following characteristics can become an entrepreneur or remain self-employed:

a. A risk taker

There is considerable risk associated with any new venture. Entrepreneurs are courageous and are willing to take risks as a part of their ventures. As a result, successful entrepreneurs earn profit as a reward for taking risks in the venture.

b. Innovation

Entrepreneurs are innovative in starting new ventures. They create new products and services more efficiently and in economical ways. Enormous efforts are put to gain the trust of the customers and sustain their venture in the competitive market.

c. Visionary and leadership

Successful entrepreneurs have a clear vision and goal for starting a new venture. They possess leadership skills such as planning, communication, marketing, interpersonal, team building and ICT in guiding their employees towards achieving the vision and goal.

d. Flexible and open minded

Entrepreneurs are flexible and open to change. They are aware of products and the latest trends in the market. They have passion, self-confidence, and the ability to confront challenges. They are also willing to learn new ideas and look forward to compete.

Role of an Entrepreneur

Entrepreneurs have private and social responsibilities. Some of the roles are:

a. Create employment opportunities

Entrepreneurs generate employment for self as well as others by setting up large and small scale business units. Entrepreneurship offers ways for independent life. Thus entrepreneurship helps to reduce unemployment problem in the country.

b. Source of revenue to the Government

Entrepreneurs are revenue contributors to the government in the form of taxes. The government uses the collected taxes to carry out developmental activities and to ease national debt, trade deficit and socio-economic challenges.

c. Balanced regional development

Entrepreneurs help to remove regional disparities in the economy. They set up industries in backward areas to avail various concessions and subsidies offered by the government and increase the income earning opportunities. This uplifts the socio-economic condition of the community.

d. Economic self-reliance

Entrepreneurship is essential for economic self-reliance. Entrepreneurs manufacture indigenous substitutes of imported products thereby reducing dependence on foreign countries. They also export goods and services on a large scale and thereby earn foreign exchange for the country.

e. Support Research and Development (R&D)

Entrepreneurs are risk takers. They research and test products before its launch in the market. They also allocate finance to universities and institutions for innovation, discoveries, research and development of the economy. Entrepreneurs also help other people who are interested in taking up similar ventures in the future.

Learning Activity 10.3: *Learning to be an entrepreneur*

Instructions:

1. Assuming that you have a capital of Nu 300, 000, create a business plan in teams using the template in Table 10.1.
2. Present your business plan to the class.

Table 10.1: Business Plan Template for Start-up Busines

i.	**Name of the Product or Business:**
ii.	**Objective** (Objective of your business)
iii.	**Impact** (Expected outcome from your business to you, the community and the economy at large)
iv.	**Out-of the Box Element** (Innovative idea to add a unique quality to your business)
v.	**Business model** (targeted consumer, core business value, cost structure and revenue generation)

Questions

i) Considering your experience from the team assignment, prepare an individual report reflecting on how you perceive your career as an entrepreneur.

ii) From the above study, discuss some of the best practices which can be adopted in our market to cater to the needs of 21st century consumers and also fulfill the development philosophy of GNH.

iii) Explore some organizations that help young entrepreneurs and discuss how these organizations grant support.

iv) Prepare a comparative analysis on entrepreneurship development policies in Bhutan and some of the best practices at the global level.

Review Questions

1. Human capital benefits not only the owner but also the society in general. This is called external benefit. Justify.

2. It is evident that the government makes huge invest in education. Do you think parents need to invest in their children's education equally? Justify.

3. How does investment in human capital contribute to economic growth?

4. Population growth and economic development are closely related to each other. What type of relationship can you draw between population and economic development?

5. "There is a downward trend in inequality worldwide with a rise in the average education levels". Do you agree? Give reasons.

Chapter 11

International Trade

Learning Objectives

1. Examine the basis of trade with the help of Absolute cost advantage theory.
2. Examine the basis of trade with the help of Comparative cost theory using Opportunity Cost and PPC.
3. Explain division of labour and specialization.
4. Analyze Bhutan's trade policy and agreement and its impact on the economy.
5. Analyze the impact of free trade and protectionism.

11.0. Introduction

International trade is defined as exchange of goods and services between the residents of one country with the rest of the world. Since no country is self-sufficient, countries depend on each other to import what the country is not able to produce and to export what it can produce in excess and for which there is a high demand.

International trade is considered as an engine of economic growth and continues to make a significant contribution to the acceleration of economic growth and development. This chapter discusses about theories of international trade and trade policies of Bhutan.

11.1. Reasons for International Trade

Foreign trade is a key stimulator of economic growth for most countries of the world. Trading partners mostly enjoy a win-win situation as they get commodities at a lower price in comparison to what it would cost to produce at home. International trade came into existence due to:

a. Difference in technologies

Technology refers to the technique used to produce good and services by combining factor inputs such as land, labour and capital. The differences in the technological capacity will make differences in the cost of production. Countries with advanced technologies will produce more and better quality products and export to those countries lacking such innovations and inventions.

b. Difference in resource endowment

The difference in resource endowment implies that some countries are more rich in resource in terms of skills and abilities of a country's workforce than the other nations. These differences could be in natural resources, capital stock, infrastructure and human resources. On this account, international trade creates a situation where a country can produce goods and services at a comparatively lower cost for export.

11.2. Basis of International Trade

With time, economists have established theories that explain global trade. These theories explain why and what happens in international trade. Primarily, there are two theories of international trade, which justifies the basis of international trade globally.

a. Absolute Cost Advantage

Adam Smith propounded the theory of absolute advantage. According to him, the basis of international trade is the differences in absolute cost of production of commodities in different countries. The theory sates that, "a country will specialize and export those commodities which it can produce at a lower cost compared to other countries". Thus, absolute cost differences arises when each of the two countries can produce some commodities at an absolutely lower cost than the other. This advantage arises as no country in the world is endowed with the same factor endowments such as fertility of soil, rainfall, land formation, availability of water, presence of capital, technologies and human resources.

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Assumptions of Absolute Cost

The theory assumes that:

1. there are two countries producing two commodities.
2. labour is the only factor of production and is considered homogenous.
3. labour is mobile only within the country and not beyond the political boundaries of a country
4. free trade exists between the two countries

Learning Activity 11.1: *Comprehending the theory of absolute cost advantage*

Instructions:

Study Table 11.1 and answer the questions

Table 11.1: Absolute Cost Advantage

Countries	Production in Units	
	Kiwi	Cordyceps
Bangladesh	1000	250
Bhutan	350	1500

Questions

i) Which country has absolute cost advantage in the production of
   a) kiwi?
   b) cordyceps?

ii) How do we determine absolute advantage of a country?

iii) In purview of absolute cost theory, would trade take place if Bhutan had absolute advantage in production of both the commodities? Why?

iv) Although Bhutan may not be able to trade at par with first world countries, based on the absolute cost advantages Bhutan has opportunities to participate in international market. Which good or service do you think Bhutan should specialise to compete in the international market? Validate your opinion(s).

b. Comparative Advantage Theory

The theory of Comparative cost advantage propounded by David Ricardo, explains that trade can still take place if one country possesses absolute advantage in the production of both the commodities by considering their relative cost differences. The theory states that " a country will specialise in the production of those goods which have lower comparative cost or goods which have greater comparative cost advantage". This occurs when one country can produce a commodity with a lower opportunity cost than the other country with whom it is trading.

Assumptions of Comparative Cost Theory

The theory assumes that:

1. there are two countries producing two commodities.
2. labour is the only factor of production and is considered homogenous.
3. labour is mobile only within the country and not beyond the political boundaries of a country
4. free trade exists between the two countries
5. there is full employment in countries engaged in international trade.
6. there is no transport cost involved in international trade
7. there is perfect completion in both product and factor market

David Ricardo's theory of international trade can be better understood as shown below.

A. Relative Productivity Ratio

Table 11.2: Production Possibilities for Bhutan and Switzerland

Production per unit	Bhutan	Switzerland
Cheese	200	900
Rice	250	600

Relative productive ratio of rice

Relative productive ratio of rice

$$\text{Bhutan} = \frac{\text{Production of rice in Bhutan}}{\text{Production of rice in Switzerland}} = \frac{250}{600} = 0.42$$

$$\text{Switzerland} = \frac{\text{Production of rice in Switzerland}}{\text{Production of rice in Bhutan}} = \frac{600}{250} = 2.4$$

Switzerland possesses comparative advantage in the production of cheese as its relative productivity ratio is higher for cheese (4.5 > 2.4). On the contrary, Bhutan has least comparative disadvantage in the production of rice (0.42 > 0.22).

B. Opportunity cost using PPC

Ricardian theory of comparative cost has been criticized and disregarded by modern economist due to its unrealistic assumption of the labour theory of value. It was Gottfried Haberler who reformulated the comparative cost theory in terms of opportunity cost and contributed major insights to the theory of international trade. The concept of opportunity cost describes a situation in which an individual, business or country can produce a good or service at a lower opportunity cost. For instance, with a given amount of resources, Bhutan can produce 200 units of cheese or 250 units of rice and Switzerland can produce 900 units of cheese or 600 units of rice as illustrated in Table 11.3. It is evident from the table that Switzerland is more efficient in production of both the commodities. Comparative cost theory using opportunity cost can help to explain how Bhutan and Switzerland both benefits through international trade.

Table 11.3: Production Possibilities for Bhutan and Switzerland

Production per unit	Bhutan	Switzerland
Cheese	200	900
Rice	250	600

The concept of opportunity cost can be illustrated with the help of a Production Possibility Curve which shows various quantities of two goods that can be produced with the given amount of resources. The shape of PPC depends on the assumptions made, either an increasing opportunity costs or constant opportunity costs. As it assumes a situation of constant opportunity cost here, the PPC shown in Figure 11.1 is represented with a straight line. It is referred to as constant opportunity cost because the opportunity cost of a good remains constant as the country increase the production of one good. This indicates that the resources are easily adaptable from the production of one good to the production of another good. Figure 11.1 Shows the PPC of Bhutan and Switzerland in terms of cheese and rice production before specialization. The slope of PPC in the diagrams represents the opportunity cost of cheese in terms of rice for both the countries.

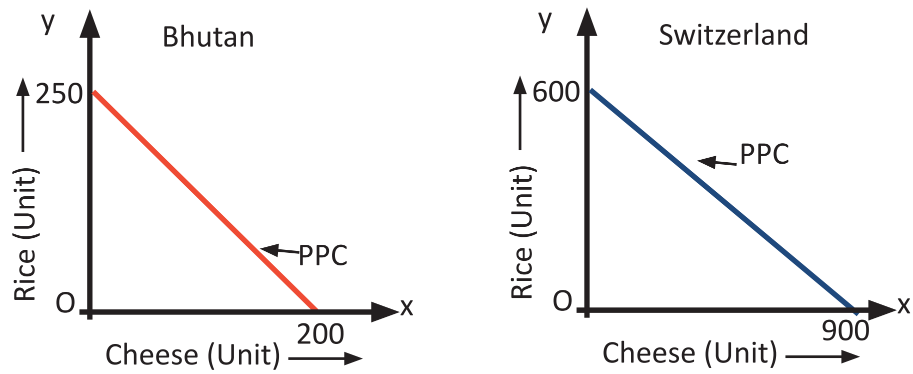

Figure 11.1: Production Possibility Curve before trade

Opportunity cost can be calculated using output and input method. In this example, it uses an output method as it is given in terms of unit of production. In order to determine the opportunity cost for producing cheese, production of rice is taken over the production of cheese for the same country as shown in the calculation. Comparative advantage can be drawn by looking at the least opportunity cost of the same commodity between two different countries from the calculation.

Bhutan

$$\text{Opportunity cost of cheese} = \frac{\text{Production of rice in Bhutan}}{\text{Production of cheese in Bhutan}} = \frac{250}{200} = 1.25$$

$$\text{Opportunity cost of rice} = \frac{\text{Production of cheese in Bhutan}}{\text{Production of rice in Bhutan}} = \frac{200}{250} = 0.8$$

Switzerland

$$\text{Opportunity cost of cheese} = \frac{\text{Production of rice in Switzerland}}{\text{Production of cheese in Switzerland}} = \frac{600}{900} = 0.67$$

$$\text{Opportunity cost of rice} = \frac{\text{Production of cheese in Switzerland}}{\text{Production of rice in Bhutan}} = \frac{900}{600} = 1.5$$

From the calculation, it can be concluded that Switzerland possesses comparative advantage in the production of cheese as the opportunity cost of cheese is lower than that of rice (0.67 < 1.5) and Bhutan has comparative advantage in the production of rice (0.8 < 2.25).

Gains from trade

Gains from trade can occur by opening the possibility of trade between two countries. If Switzerland is willing to sell cheese (C) at price > 0.67 rice (R) and Bhutan is willing to buy cheese from Switzerland at a price < 1.25 rice, both the countries will be able to increase their consumption possibilities by specialising in the good in which they have comparative advantage, as the price of the cheese is somewhere between 0.67 and 1.25. Suppose that one unit of cheese is exchanged for 0.96 units of rice (1 C = 0.96 R) in the international market, gain from trade for every unit of cheese exported is 0.29 units of rice (0.96 – 0.67) for Switzerland and every unit of cheese imported will be 0.29 units of rice (1.25 – 0.96) for Bhutan.

In the similar manner, the gains form trade can be also measured in terms of cheese. If Bhutan is willing to sell rice at price > 0.8 cheese and Switzerland is willing to buy rice from Bhutan at a price < 1.5 cheese. Both the countries will gain and can increase its consumption, as the price of the rice is somewhere between 0.8 and 1.5. Suppose in the international market, one unit of rice is exchanged for 1.15 units of cheese (1 R = 1.15 C), gain from trade for every unit of rice exported is equal to 0.35 units of cheese (1.15 – 0.8) for Bhutan. For Switzerland, one unit of rice is exchanged for 1.15 units of cheese, gain from trade for every unit of rice imported is equal to 0.35 units of cheese (1.5 – 1.15).

PPC with trade and specialization can be shown by drawing a line originating at the point on the axis in which a country has comparative advantage and is specializing its production. In Figure 11.2, Bhutan specializes in production of rice and shows a right ward shift of PPC for cheese depicting gains from trade after specialization. Correspondingly, Figure 11.3 shows right ward shift for rice in Switzerland. The gains from trade for both the countries are represented by the distance between their two production possibility curves. Therefore both the countries will be able to consume at a point beyond its PPC through specialization and trade.

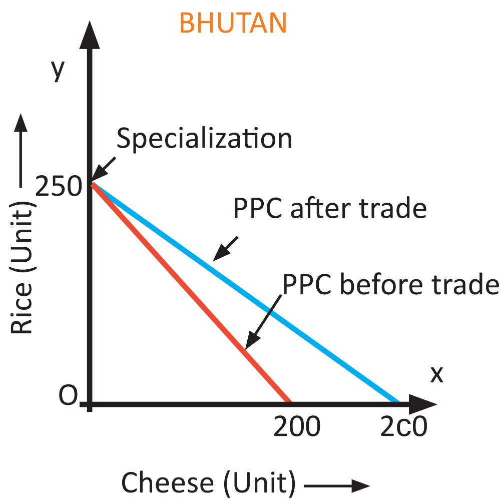

Figure 11.2: Production Possibility Curves after trade (Bhutan)

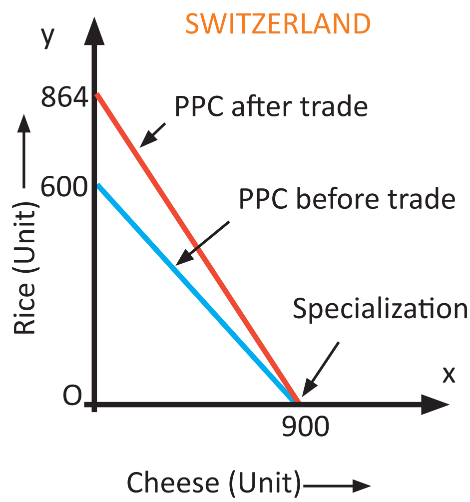

Figure 11.3: Production Possibility Curves after trade (Switzerland)

Know More

Example to calculate terms of trade and gains from trade:

Take the value of opportunity cost for any same commodity for two countries and add the values.

=1.25 + 0.67 (cheese) = 1.92

To obtain terms of trade, take the average of two countries (Divide the total with 2 countries) = 1.92/2 = 0.96

In order to calculate gains from trade, the value for the commodity in which the country would be specializing shall be considered to obtain gains from trade. Use the product method (multiply) if the terms of trade is greater than the value of opportunity cost for the specializing commodity ($0.67 < 0.96$). In case of lower value of terms of trade than the value of opportunity cost, it has to be divided ($1.25 > 0.96$). In the example provided, it shows higher terms of trade, hence product method is used.

Production of rice in terms of cheese in Bhutan (area of specialization) = 250/0.96 = 260 units of cheese.

Production of cheese in terms of rice in Switzerland (area of specialization) = 900x0.96 = 864 units of rice. Same steps can be followed to calculate terms of trade for the other commodity.

11.8. Impact of International Trade

International trade encourages countries to engage in exchanging various goods and services where they enjoy lower cost of production as a result of which countries can benefit largely in production of commodities on a large scale. No country in today's world can stand on their own no matter how economically or politically strong they are. Thus, every country looks forward to importing those commodities which they cannot gainfully/efficiently produce in their country, and plans to export what they can produce more efficiently both in terms of cost and quantity.

Learning Activity 11.2: *Conduct a mini seminar to identity and examine the impacts of international trade on the Bhutanese economy*

Instructions:

Step 1: Seminar preparation phase

1. Divide the participants into groups of two.
2. Each group prepares a seminar presentation to be presented by one of the members.
3. Learners choose a topic that is of interest to themselves and of general interest as well. Selecting a topic that will make a good presentation is a big first step towards making a good seminar.
4. While preparing the presentation, learners will make sure that the presentation has an introduction, recognizable sections and clear end. Use of visual aids (power point slides or board) is highly encouraged to highlight the main points.

Step 2: Seminar presentation phase

1. Present the topic being mindful of clarity, audibility in voice, being focused and calm, and maintaining eye contact with the audience. These are important to gain attention of the audience while making presentation.
2. Do not read from a manuscript directly instead presenter is encouraged to present in their own words. Reinforcement of important points by summarizing them at the end of a section is important
3. Summarize topic by drawing connections between what they have been presented and the seminar objectives.
4. Interact with the audience through question and answer session after the presentation.
5. During the seminar presentation, rest of the members assess the presenter using the tentative rubrics provided.
6. Acknowledge the source of the materials used for the presentation.

Step 3: Post seminar phase

1. Feedback on the presentation is provided to the presenter after the seminar presentation.
2. Presenters make analysis of the presentation based on the feedback

and personal reflection.

3. The seminar presentation as an assessment technique to assess students' values and attitudes is measured by using rubrics.

Assessment

Based on a tentative score of 1-4 and these criteria, the teacher may evaluate the seminar presentation

A. Organization
B. Subject knowledge
C. Visual presentation
D. Presentation skills
E. Conduct
F. Response to questions
G. Overall delivery

Follow up questions

i) Bhutan's development has come this far and the due credents goes to international trade. Examine some positive impacts of international trade on the Bhutanese economy.

ii) Ten years from now, what is your forecast on the gains from international trade for Bhutan?

iii) Explore how international trade can help check the high rates of unemployment in a developing country like Bhutan.

iv) International trade while bringing good, could also cost the country the rich bio-diversity. Do you think there will be environmental degradation with promotion of international trade in Bhutan? Discuss.

v) Critically examine how Bhutan can protect its culture in the long run with increase in home production as well as import of foreign goods.

vi) The desire for luxury, show-off for higher standard of living and consumerist behaviour of advanced countries has been a reason for low level of domestic saving. Explore and discuss some possible measure to reduce demonstration effect.

11.4. Division of Labour and Specialization

In an economy, division of labour and specialization lead to large scale production. According to Adam Smith, division of labour and specialization forms the basis of trade by increasing the productivity of the firm and simultaneously decreasing the unit cost of production. Division of labour is defined as the breaking down of the production process into a number of different processes, which is completed by one person or a group of people. For an example, the division of labour in a production of car can be done as shown in Figure 11.4. Division of labour leads to specialization, since a person in the production process does the same job repeatedly over the years. Specialisation is described as the concentration of a person's, a firm's, or a country's productive effort in a certain area of economic activity or a certain line of production in which it has the greatest comparative advantage over others. For example, Bhutan produces a surplus of electricity. Similarly, Saudi Arabia produces a surplus of petroleum products, which both the countries trade with other countries.

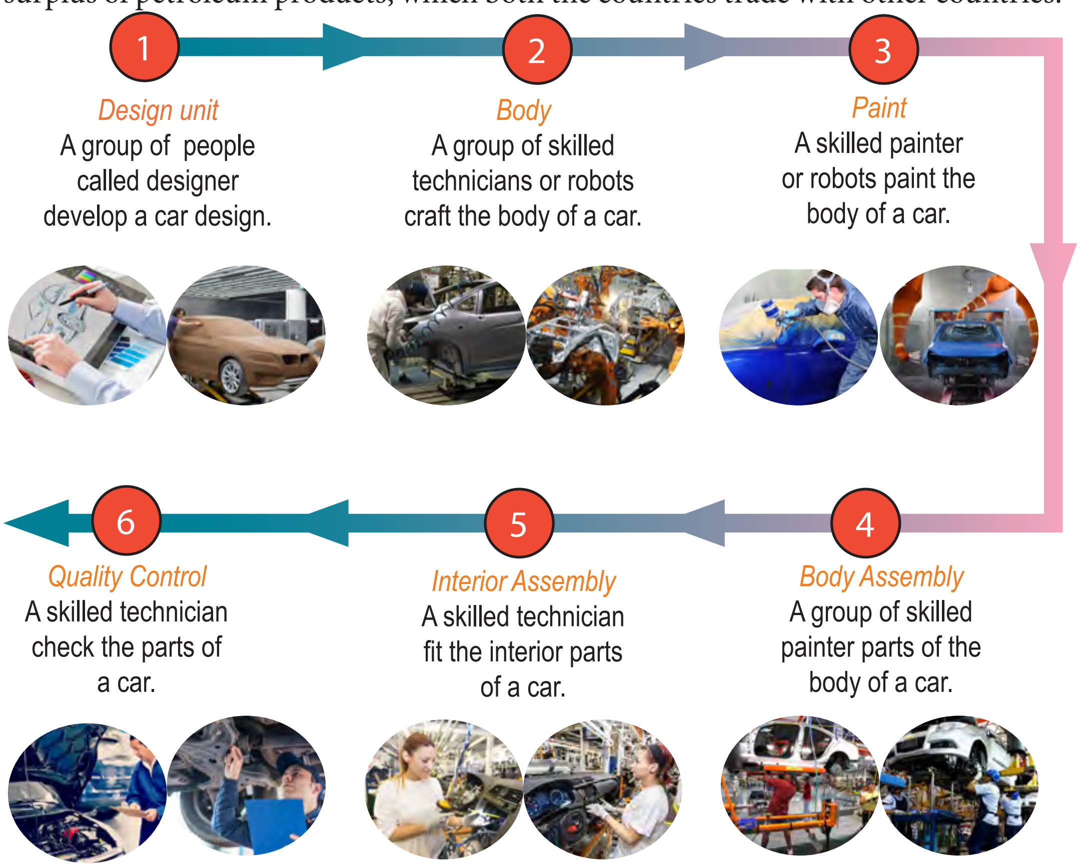

Figure 11.4: Production process showing division of labour

11.5. Free Trade and Protectionism Trade

a. Free trade

Government policy towards international trade is known as commercial policy. Since the time of Adam Smith and Ricardo, the classical economists have advocated free trade as an ideal towards which trade policy should strive. The term 'free trade' implies a system of commercial policy, which does not differentiate between domestic and foreign commodities and therefore neither grants any special favour to the former nor imposes additional burden on the latter. In other words, free trade is a hypothetical policy in which governments impose no tariffs, taxes, or duties on imports and no export limits. However, in reality, governments still impose some controls on imports and exports for various reasons.

b. Protectionism trade

Protectionism refers to a trade policy of a country, which basically encourages domestic industries to grow by adopting different tools such as tariffs, quantitative restrictions, subsidization of domestic industries and foreign exchange regulations, and licenses that basically discourages imports. Such tools are used by the government to limit imports of goods and services, and safeguard domestic industries.

11.6. Bhutan's Trade Policy

A trade policy comprises a set of regulations and agreements put in place by governments to control the import and export of goods and services of a country. These policies include descriptions of the standards, goals, rules and regulations that govern trade relations between specific countries.

Trade with other countries is governed by agreements such as Free Trade Agreements (FTA), bilateral, regional and multi-lateral. Bhutan's trade is governed by bilateral trade agreements and regional trade agreements.

a. Bilateral trade agreements

Bilateral trade agreement is a contract or an agreement between two nations that describes how they will work together to guarantee mutual benefit in the field of trade and investment. It is in the best interest of both the countries to facilitate trade with minimum restrictions and provide the goods to the customers at the cheapest price possible. Bhutan has bilateral trade agreement with India and Bangladesh.

b. Regional trade agreements

Regional trade agreement is a treaty signed amongst the member countries in a region which defines the rules of trade to achieve communal interest. Usually, quotas, tariffs and other forms of trade barriers restrict trade among the countries. However, regional trade agreements help to reduce or remove the barriers to trade. Bhutan is a member of regional trade organisations such as South Asian Free Trade Area (SAFTA) and Bay of Bengal Initiative for Multi-sectorial Technical and Economic Cooperation (BIMSTIC).

i. South Asian Free Trade Area (SAFTA)

SAFTA is a free trade agreement among the eight countries of SAARC. It replaced the earlier South Asian Preferential Trade Agreement (SAPTA), which was limited in scope. This FTA was signed during the 12th SAARC submit held in Islamabad from 4th to 6th January, 2004 to facilitate free trade among the member countries but was launched on 1st January, 2006.

Objectives

1. Eliminating barriers to trade and facilitating the cross border movement of goods among the member countries.
2. Ensuring equitable benefits to all member countries and establishing a framework for further regional cooperation.
3. Providing technical support to the least developed member countries to promote export competitiveness.
4. Promoting conditions of fair competition in the free trade area.
5. Allowing the member countries to prepare a list of products, which are to be restricted to import for the protection of national interest.

ii. Bay of Bengal Initiative for Multi-sectorial Technical and Economic Cooperation (BIMSTEC)

BIST-EC (Bangladesh, India, Sri Lanka, and Thailand Economic Cooperation) was formed at a meeting in June 1997 in Bangkok. Myanmar was admitted in December 1997 and the organization was renamed as BIMST-EC. The grouping expanded when

Nepal and Bhutan were admitted in February 2004 and the name was changed to BIMSTEC at 1st Summit Meeting held in Bangkok in July 2004. Thus, the member countries comprise 5 countries of SAARC and 2 countries of ASEAN.

Objectives

1. Creating an enabling environment for rapid economic development through identification of projects in the field of trade, investment, technology, human recourse development, tourism, agriculture, energy, and transportation.
2. Accelerating economic growth and social progress in the regions through joint endeavors in a spirit of equality and partnership.
3. Progressively liberalize and promote foreign trade in products and services.
4. Promoting active collaboration and mutual assistance on matters of common interest in the economic, social, technical and scientific fields.
5. Providing assistance to each other in the form of training and research facilities in educational, professional and technical spheres.

Learning Activity 11.3: *Evaluating the impact of trade policy and agreement*

Instructions:

Examine the bilateral and regional trade agreements of Bhutan.

Questions

i) In view of the trade agreement that you have examined, discuss the impacts of trade agreements on the Bhutanese economy.

ii) One of the advantages of free trade is that it stimulates economic growth. Has it been the case for Bhutanese economy? Justify giving examples.

iii) If Bhutan follows a protectionist policy on the import of commodities, will self-sufficiency be realised? Discuss with valid examples.

Review Questions

1. Explain how division of labour and specialisation increase productivity?
2. Would Bhutanese farmers benefit if they specialise in producing one single commodity. Explain your arguments?
3. What are the economic benefits of Bhutan being a member of South Asian Free Trade Agreement (SAFTA)?
4. Though international trade provides market for both primary and finished products, there are certain challenges associated with it. Why do you think Bhutan is faced with such challenges to export its products?
5. Explain the concept of comparative cost theory as a basis of international trade.

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Chapter 12

Balance of Payments

Learning Objectives

1. Define the concept of balance of trade and balance of payment.
2. Discuss the causes and effects of deficit balance of payment.
3. Examine the measures to correct deficit balance of payment.

12.0.Introduction

In 21st century, the economic interdependence among countries has become important for economic growth and development. The constant flow of goods and services amongst countries demands every country to maintain an account of economic transactions. Economic transactions are generally reflected in the balance of payments.

This chapter deals with the concept of balance of trade and balance of payments, causes and effects of deficit balance of payment and the measures to correct deficit balance of payment.

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12.1. Balance of Payments

The government of every country maintains an account of its economic transaction with the rest of the world. The balance of payment (BoP)is an accounting of a country's international transactions for a particular time period. It is a systematic record of all economic transactions between residents of one country and residents of foreign countries during a given period of time. The receipt side of balance of payment records the account of goods exported, services rendered and capital received by residents and the payments records the account of goods imported, services received, and the capital transferred to the rest of the world. Thus, Any transaction that causes money to flow into a country is a credit to its BoP account, and any transaction that causes money to flow out is a debit.

Components of Balance of Payments

Balance of Payment consists of three types of accounts: Current account, Capital account and Financial account.

a. Balance of Current Account

Balance of current account is an important indicator of an economy's health. Balance of current account shows the balance between the net credit and net debit on the flow of the value of goods and services, incomes and current transfers between residents of one country and residents of foreign countries during a given period of time. The balance of the current account may not be in equilibrium but it will show either surplus or deficit.

b. Balance of Capital account

Balance of capital account is regarded as one of the primary components of the balance of payments of a nation. It shows the balance between the net credit and net debit entries for transition in non-produced, nonfinancial assets and capital transfers between residents of one country and residents of foreign countries during a given period of time.

c. Financial account

The financial account shows the balance between net credit and net debit for direct investment, portfolio investment and reserves assets between residents of one country and residents of foreign countries during a given period of time.

Balance of current account and balance of capital account are interdependent. A deficit in the current account must be settled by a net surplus on the capital account. A country's balance of payments is said to be in equilibrium when there is perfect equality between the supply and the demand for foreign exchange. However, in reality the balance of payments of any country tends to be in disequilibrium either in the form of surplus or deficit. When a country's credit is greater than debit, the balance of payment is said to be surplus. On the other hand, if the credit is less than the debit, it is said to be deficit balance of payment.

Table 12.1: Balance of Payment transactions

Current Account (Credit and Debit)	
Goods and services	• Goods • Services
Income	• Rent • Interest • profit
Current transfers	• Pensions • Remittances • Gift and donations
Capital Account (Credit and Debit)	
Capital transfers	• Debt forgiveness • Non-life insurance claims. • Investment grants.
Non-produced, non-financial assets	• Natural resources that have not been produced (land, fishing rights, forestry rights) • Intangible assets (copyrights, patents)
Financial Account (Net acquisition of financial assets and net incurrence of liabilities)	
Direct investment (FDI)	• Physical capital including factories and building
Portfolio investment	• Investment in financial capital (stocks and bonds)
Reserve assets	• Foreign exchange

12.2. Deficit Balance of Payment

Balance of payment of a country can either be balanced, surplus or deficit. If a country's payments are more than its receipts, BoP is said to be deficit or negative. Generally, the deficit in the balance of payment is due to deficit in the current account. A surplus BoP is considered favorable while a deficit BoP is unfavorable for an economy, as deficit BoP often leads to certain economic difficulties. Thus, it is very essential to understand the concept of deficit BoP and to develop economic policies to achieve favorable BoP.

Learning Activity 12.1: *Exploring the cause and effects of deficit Balance of Payment*

Questions

i) Bhutan has to rely heavily on the import of consumer goods, capital goods and machinery, as well as human capital. Explore and examine what could be some of its adverse impacts on the Bhutanese economy.

ii) Do you think this trend of heavy import of goods and services has a negative impact on the first pillar of Gross national happiness 'Sustainable and equitable socio economic development' and economic sustainability? Work in a pair and validate your opinion with sufficient justification.

Measures to Correct Deficit Balance of Payment

Countries adopt different methods to solve the problem of deficit Balance of Payments. Some of the measures are:

a. Import control

Quantity restrictions on imports can be imposed by the government through restrictive measures through tariffs and quota. When tariffs are imposed, the price of imported goods would increase and will reduce the demand for imported goods. Under the quota system, the government may fix and permit the maximum quantity of a commodity that can be imported during a period of time. By restricting imports through the tariff and quota system, the deficit will be reduced and the balance of payment position improves.

b. Export promotion

The government can adopt export promotion measures to correct the deficit balance of payments. This implies encouraging exports through tax concession, marketing facilities, credit facilities and various incentives to exporters. The government may also help to promote export through exhibitions, trade fairs, research and development, and administrative and diplomatic support.

c. Import substitution

A country may also resort to import substitution to reduce the volume of imports and achieve self-reliance. Fiscal and monetary measures may be adopted to encourage industries producing import substitutes through various strategies such as tax concession, subsidy, technical assistance and financial inclusion.

d. Exchange control

It is an extreme step taken by monetary authority to control exchange dealings. Under such a measure, all exporters are directed to surrender their foreign exchange to the central bank. Thus, it leads to concentration of exchange reserves in the hands of central authority. However, the supply of foreign exchange is made available only for import of essential goods. It can only help control situations from becoming worse. It is only a temporary measure and not a permanent remedy.

e. Currency value depreciation

Depreciation implies the automatic reduction in the value of domestic currency against foreign currency. This happens when a country adopts flexible exchange rate policy. Depreciation will make domestic goods cheaper and the volume of exports will increase. On the other hand, foreign goods become costlier leading to fall in the volume of imports. Increase in export and decrease in import will correct the deficit BoP situation of a country.

f. Devaluation

Devaluation refers to the deliberate reduction of the value of domestic currency against foreign currency by monetary authorities. Devaluation will make imports expensive and exports cheaper in foreign markets. As a result, exports increase and imports decrease.

g. Deflationary policy

The central bank can adopt deflationary policy by raising bank rates and restricting credits. During deflation, prices of the domestic commodities fall which make exports attractive and imports relatively costlier.

Learning Activity 12.2: *Analysing Bhutan's balance of payment to understand its main components (Capital and current account)*

Instructions:

Visit the www.mof.gov.bt (National Budget Report) to explore the recent balance of payments status of Bhutan.

Questions

i) Identify the current status of Bhutan's BoP. What could be the factors that have led to the current status of BoP?

ii) Identify the trend of Bhutan's current account for the last five years. What could be the factors that have led to such trend of current account?

iii) What are some of the goods that Bhutan can produce as import substitutes? Justify your view by exploring the possibility of production and its benefits.

iv) Suggest some relevant measures to improve the current status of Bhutan's BoP.

v) What impact would deficit in BoP have on an economy?

Review Questions

1. Identify the correct pair of formulas from the following column I and II: Choose the correct answer.

Column I		Column II	
A	Capital account surplus	I	Receipts ≤ Payments
B	Current account surplus	II	Receipts > payments
C	Balanced current account	III	Receipts ≠ Payments
D	Current account deficit	IV	Receipts < payment

2. Distinguish between depreciation and devaluation.
3. Industrialization through provision of subsidy, tax holidays and technical assistance is one of the ways of correcting the deficit Balance of payment. What drawbacks do you think are associated with such a measure?
4. How do you think a developing country like Bhutan would be successful in conducting import substitution as a remedy to solve the deficit Balance of payment?
5. Do you think demonstration effect is a cause of the deficit Balance of Payment in Bhutan? Explore suitable examples to validate your stand.
6. State the differences between the balance of trade and balance of payments account of a country.
7. Which measure do you think is most appropriate in correcting the deficit Balance of Payment situation in Bhutan? Validate your opinion(s).
8. 'Export promotion through domestic industrialization is one of the measures to correct the deficit balance of payment and can be adopted by Bhutan.' Do you think this can be achieved in Bhutan? What hurdles can you foresee in adopting this measure?

Chapter 13

Financial Institutions

Learning Objectives

1. Explain the role of financial institution on the economic development of the country.
2. Recognise financial institutions as an agent of economic growth.
3. Discuss the meaning of monetary policy.
4. Explain the objectives of monetary policy.
5. Explain the instruments of monetary policy used by the central bank.
6. Explain the process of credit creation by commercial banks.

13.0. Introduction

At any given point of time, some individuals, businesses, and government agencies have more money than they need for current activities while some have less than what they need. Thus, a mechanism is required to match up the savers with the borrowers. Borrowers can search savers and negotiate loans, but the system would be inefficient, complex and risky. Therefore, financial institutions play an important role in intermediating the savers and borrowers by simplifying these complex and risky processes.

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This chapter aims to explain the roles of financial institutions in the economic development of a country, monetary policy of the central bank and credit creation by commercial banks.

13.1. Financial Institutions

A financial institution is an establishment engaged in the business, dealing with financial and monetary transactions such as deposits, loans, investments, money transfer, and currency exchange. Financial institutions encompass a broad range of business operations within the financial sector including banks, insurance companies, brokerage firms and investment dealers.

Financial institutions are classified as banking and non-banking financial institutions. Banking financial institutions are those which accept deposits, provide loans, manage withdrawals and provide general utility services to the clients. On the other hand, non-banking financial institutions are those financial institutions, which do not accept deposits but provide other financial services such as insurance, providing loans, pension and provident fund to the clients.

The financial institutions operate under the regulation and supervision of the Central Bank of a country. In Bhutan, the Royal Monetary Authority of Bhutan (RMA) is the Central Bank of the country. It regulates all financial institutions including the microfinance.

Role of Financial Institutions

Financial institutions as financial intermediaries play an important role in the economic development of a country. They are the core economic agents that facilitate in carrying out various economic and investment activities. Some of these roles are shown in Figure 13.1.

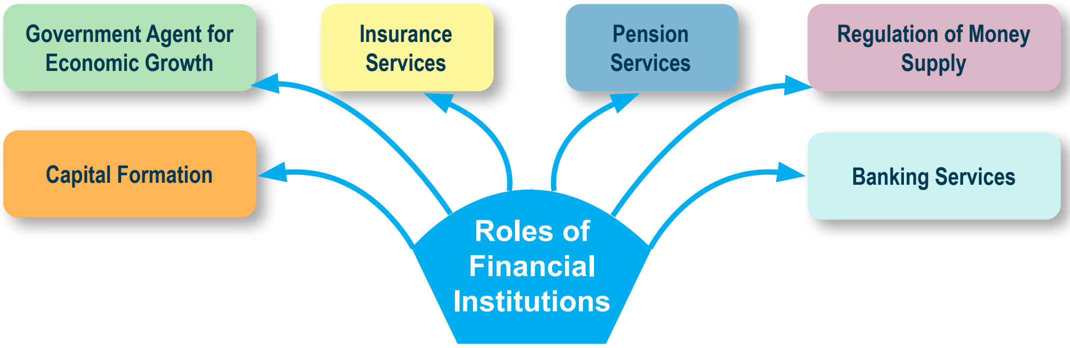

Figure 13.1: Roles of Financial Institution

a. Regulation of Money Supply:

Financial institutions and the Central Bank in particular help in regulating money supply in the economy. The central bank incorporates various measures like increasing or decreasing interest rate, cash reserve ratio, and open market operations to control the money supply in the market. Ultimately, this will help the economy in controlling inflation to maintain economic stability.

b. Banking Services:

Financial institutions help their customers by providing savings and deposit services. They provide credit facilities like personal loans, education loans, and housing loans, which are long term loan and other short term fund like overdraft facilities to the customers.

c. Capital Formation:

Financial institutions help to increase the stock of capital in the economy. The stock of capital includes plants, machinery, equipment, buildings, and means of transport and communication. This is done by mobilizing the idle savings from individuals in the economy to the investor through various monetary services.

d. Insurance Services:

Financial institutions help to mobilize savings and investment in productive activities. In return, they provide assurance to investors against their life or asset at the time of need. In other words, they transfer the customer's risk of loss to themselves.

e. Pension Services:

Financial institutions, through their investment plans, help individuals in planning for retirement. One such investment option is a pension fund, where an individual contributes to the pool of investment set up by employers, banks, or other organizations and he or she gets a lump sum or monthly income after the retirement.

f. Act as a Government Agent for Economic Growth:

Financial institutions are regulated by the government at regular intervals. They act as government agents and help in the growth of the economy as a whole. For example, to help out an ailing sector, they issue a selective credit line with lower interest rates to overcome the issues and accelerate the growth of such sector to boost the economy.

Learning Activity 13.1: *Examining the significance of Responsible Finance*

Instructions:

Study the information in Figure 13.1 to examine the significance of responsible finance.

Responsible Finance

Responsible finance must focus on financial service providers, (their practices, what they do or do not do) and on clients, (mainly aimed at improving their capacities to access and use high quality financial services). Responsible Finance Forum refers to RF as "coordinated public and private sector interventions that encourage and assist financial service providers and their clients in improving their understanding and approaches, practices, and behaviours that can eventually contribute to creating more transparent, inclusive, and equitable financial markets". RF involves and applies to not just financial service providers, but also to investors, lenders and funders; not only of microfinance, but the financial sector as a whole.

There are a number of reasons for the emergence of the importance of RF:

- *The race for growth and profits resulted in high growth rates and less focus on customer service and product innovation;*
- *Allegations against microfinance institutions (MFIs) of profiteering at the cost of clients;*
- *Client protection issues (especially multiple lending to over-indebtedness) leading to repayment issues;*
- *Focus on a rapid rollout and a mono-product culture (excessive focus on only credit led to inadequate efforts to address the diverse needs of the clients, which are again linked to client protection).*

Source: RMA

Questions

i) What do you understand by the term 'Responsible Finance'?

ii) In your own words, discuss the reasons for the emergence of responsible finance in Bhutan.

iii) What is microfinance? Explore and list down the microfinance institutions in our country. How are their roles different from the roles of financial institutions?

iv) If you are one of the private money lenders, describe the strategies that you would incorporate to promote responsible financing?

v) Do you think responsible financing is duly practised and applied by financial sector of Bhutan? Comment.

13.2. Regulatory Role of the Central Bank

Monetary management is the most important function of a central bank which relates to the management of money supply. Large fluctuations in the volume of money give rise to fluctuations in the value of money and create the problems of inflation or deflation. Thus, the central bank uses monetary policy for appropriate monetary management.

Since a major portion of money supply in an economy consists of bank money or bank credit, control of money supply is possible through control over the supply of bank credit. That is why, monetary policy is also known as 'credit policy'.

13.3. Monetary Policy

Monetary policy is the policy of the central bank of a country to regulate either the interest rate payable for short-term borrowing or the volume of money supply in the economy. It is to achieve macroeconomic goals that promote sustainable economic growth.

Monetary policy can be either expansionary or contractionary monetary policy. An expansionary monetary policy maintains short-term interest at a low rate or increases the supply of money in the economy. On the other hand, a contractionary monetary policy maintains short-term interest rates greater than usual, or decreases the supply of money in the economy.

Objectives of Monetary Policy

As the objective of monetary policy varies from country to country and from time to time, it is very difficult to specify its objectives. However, there are some common objectives which are given in Figure 13.2.

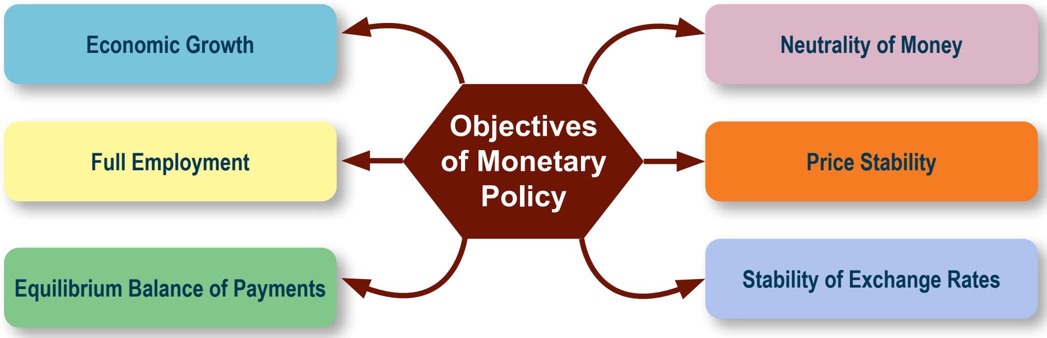

Figure 13.2: Objectives of Monetary Policy

Learning Activity 13.2: *Analyzing the objectives of Monetary Policy*

Instructions:

Study Figure 13.3 and discuss the objectives of monetary policy in groups and present to the whole class.

Questions

i) What is the meaning of 'neutrality of money?

ii) How can the monetary policy be used during each of this situation?

  a) High inflation rate

  b) Recession

  c) Economic boom

iii) One of the objectives of monetary policy is to achieve full employment. Do you think attainment of full employment is possible in reality? Comment.

Instruments of Monetary Policy

The instruments of monetary policy used by the Central Bank depend on the level of development of the economy, especially its financial sector. The monetary tools are broadly classified into two types. They are conventional monetary tools and unconventional monetary tools.

a. Conventional Monetary Policy

It is a set of instruments used by all central banks since their inception to regulate the money supply in the economy. It operates via interest rates. Thus, it uses traditional monetary tools. The three conventional monetary tools are:

i. Cash Reserves:

The central bank requires commercial banks to hold a fraction of their deposit as vault cash with it. This fractional reserve retained with RMA is called cash reserve ratio. When cash reserve ratio is high, the reserves with the banks decrease, leading to decrease in money supply. On the other hand, when the cash reserve ratio is low, the reserves with the banks increase, leading to increase in money supply.

ii. Open Market Operations:

The central bank buys or sells securities in the open market. One such security is Treasury Bills. Treasury bills are government bonds or debt securities with maturity of less than a year. When the Central Bank sells securities, it reduces the supply of money and when it buys securities, it increases the supply of money in the economy.

iii. Bank Rate:

The Central Bank lends to financially sound commercial banks at a most favourable rate of interest, called the minimum rediscount rate (MRR). When this rate increases, it becomes expensive for commercial banks to take the loans, which limits the credit and hence, decreases the money supply. On the other hand, when this rate decreases, commercial banks opt for more loans leading to increase in credit. As a result, money supply in the economy increases.

b. Unconventional Monetary Policy

Unconventional monetary policy directly targets the cost and availability of external financing to banks, households and non-financial companies. Some of these instruments are:

i. Lending by the Central Bank:

The Central Bank sometimes provide credit to commercial banks and other financial institutions, thus affecting the level of reserves and the monetary base in the economy.

ii. Direct Credit Control:

The Central Bank can direct commercial banks on the maximum percentage or amount of loans (credit ceilings) to different economic sectors or activities, and issue credit guarantee to preferred loans. In this way, the available savings are allocated and investment is directed in a particular direction.

iii. Moral Suasion:

The Central Bank issues licenses to commercial banks and also regulates the operation of the banking system. It can persuade banks to follow certain paths such as credit restraint or expansion, increased savings mobilization and promotion of exports through financial support, which otherwise they may not do, on the basis of their risk or return assessment.

iv. Prudential Guidelines:

The Central Bank may, in writing, require the commercial banks to exercise particular care in their operations so that specified outcomes are realized. Key elements of prudential guidelines remove some discretion from bank management and replace it with rules in decision making.

v. Exchange Rate:

The balance of payments can be in deficit or surplus and each of these affect the monetary base. By selling or buying foreign exchange, the Central Bank ensures that the exchange rate is at levels that do not affect domestic money supply in undesired direction.

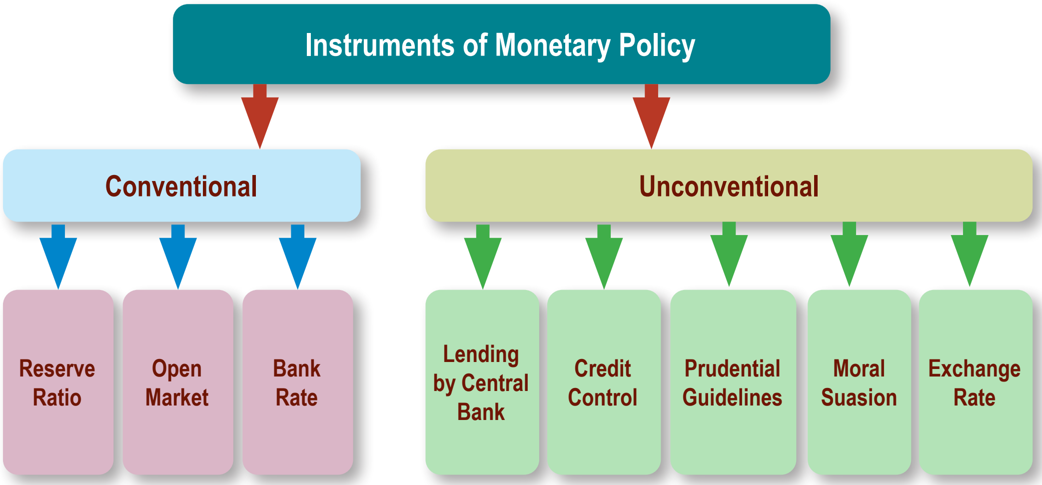

Figure 13.3: Monetary Tool

Know More

Negative interest rates occur when borrowers are credited interest rather than paying interest.

- This scenario mostly occurs during deep economic recession when monetary efforts and market forces have already pushed interest rates to nominal zero bound.
- Banks and financial institutions have to pay to store their funds at the central bank rather than earning interest income.

13.4. Credit Creation by Commercial Banks

Commercial banks are the unique financial institutions in the modern economies which are able to create money in the form of deposit money. A large proportion of the total money supply consists of bank's demand deposits. Thus, banks can create money by creating bank deposits and can reduce money by reducing bank deposits.

It is essential to know the concepts like primary deposits, derivative deposits and cash reserve ratio in understanding the process of credit creation.

a. Primary Deposits:

These are the deposits made by customers in terms of currency or cash with commercial banks. Creation of primary deposits transforms the currency money into deposit money but there is no change in total volume of money supply in the economy.

b. Derivative Deposits:

These are the deposits created by banks through their lending and investing activities. It results into increase in money supply in the economy.

c. Cash Reserve Ratio (CRR):

The commercial banks keep certain percentage of total deposits for day to day cash requirements. This portion of fund kept from the total deposits is called 'cash reserve ratio' of the commercial banks.

Process of Credit Creation by Commercial Banks

The process of credit creation by commercial banks can be explained by considering the following assumptions.

1. A situation of multiple banking system is taken, where there are many commercial banks in the economy.
2. There is a minimum cash reserve ratio of 10%. Each bank is required to keep 10 % of its deposits in the form of cash reserves.
3. Excess reserve, besides the cash reserve of 10 %, is used in extending loans and advances.
4. The loan drawn by a customer from a bank is transferred in full amount to the other bank.
5. Each bank starts with an initial deposit, which is deposited by its depositor as a result of payment received from the borrower of the other bank.

Table 13.1: Process of Credit Creation by Commercial Banks

Bank	Deposits (Nu)	Cash Reserves (10 %)	Loans (Nu)
Bank of Bhutan (BOB)	1000	100	900
Bhutan National Bank (BNB)	900	90	810
Bhutan Development Bank (BDBL)	810	181	729
...	...	...	...
...	...	...	...
Total	10000	1000	9000

When the customer deposits Nu 1000 in BOB, it becomes initial or primary deposits of BOB. Now, BOB is required to keep cash reserve of 10% and the balance is used for advancing loans (Nu 900). Suppose person A uses this loan of Nu 900 in purchasing goods from person B, who has an account in the BNB. Thus, Nu 900 will be deposited in BNB and it becomes the initial deposits of BNB.

Similarly, BNB will extend loan after keeping 10% as cash reserve, i.e. Nu 90 of Nu 900. Now person C uses this loan of Nu 810 in purchasing goods from person D who has an account in BDBL. This becomes primary deposits of BDBL. In the same process, the excess CRR of Nu 729 will be used in advancing loans. After this transaction, an initial deposit of Nu 1000 has resulted in the creation of deposits by 3 banks amounting to 1000 + 900 + 810 + 729 = Nu 3439.

The process will come to an end when the deposit received by a particular bank is too small to generate any fresh loan, and all banks have used excess cash reserve in extending loans. The amount of credit creation by the banking system as a whole can be worked out with the following formula:

$$\text{New Deposits} = \frac{1}{RR} \times \Delta D$$

Where. RR - Reserve Ratio

ΔD - Change in initial deposits

$\frac{1}{RR}$ - Deposit multiplier (Credit multiplier)

In the above example:

$$\text{New Deposits} = \frac{1}{10\%} \times 1000$$

$$= \frac{100}{10} \times 1000 = \text{Nu } 10{,}000$$

Therefore, the entire banking system will be able to create new deposits of Nu 10,000 on the initial deposit of Nu 1000 and create credit of Nu 9000.

Learning Activity 13.3: *Evaluating the importance of CRR*

Instructions:

Use Figure 13.4 to answer the questions that follow:

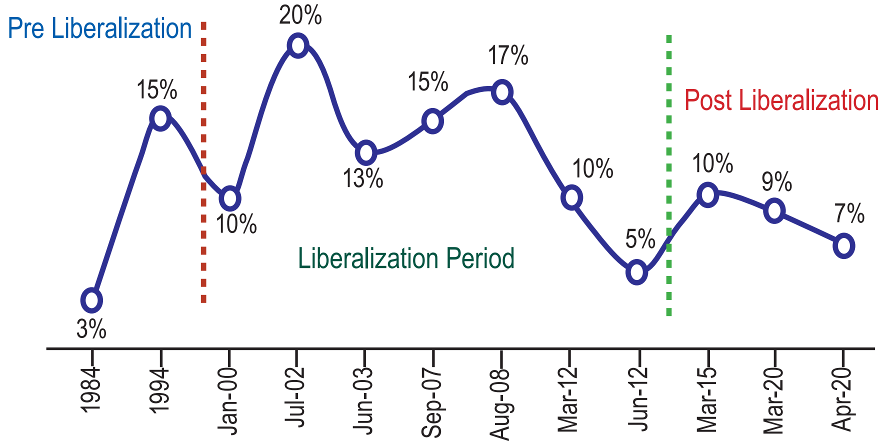

Figure 13.4 CRR revision since 1984 (Source: RMA)

Questions

i) Assuming that the initial deposit in BNB is Nu 15,00,000; calculate the cash reserves that the BNB will maintain for the following years:
   a) August 2008
   b) June 2012
   c) March 2015

ii) In the year 2002, the CRR had been increased to 20% during the month of July and decreased to 7 % in April 2020? Under what situation does RMA raises or reduces the CRR?

iii) Discuss the effect of high CRR on:
   a) Financial institutions
   b) Borrowers

Limitations of Credit Creation

The power of commercial banks to create credit is not absolute. It is limited by a number of factors. Some of these limitations are discussed in Figure 13.5.

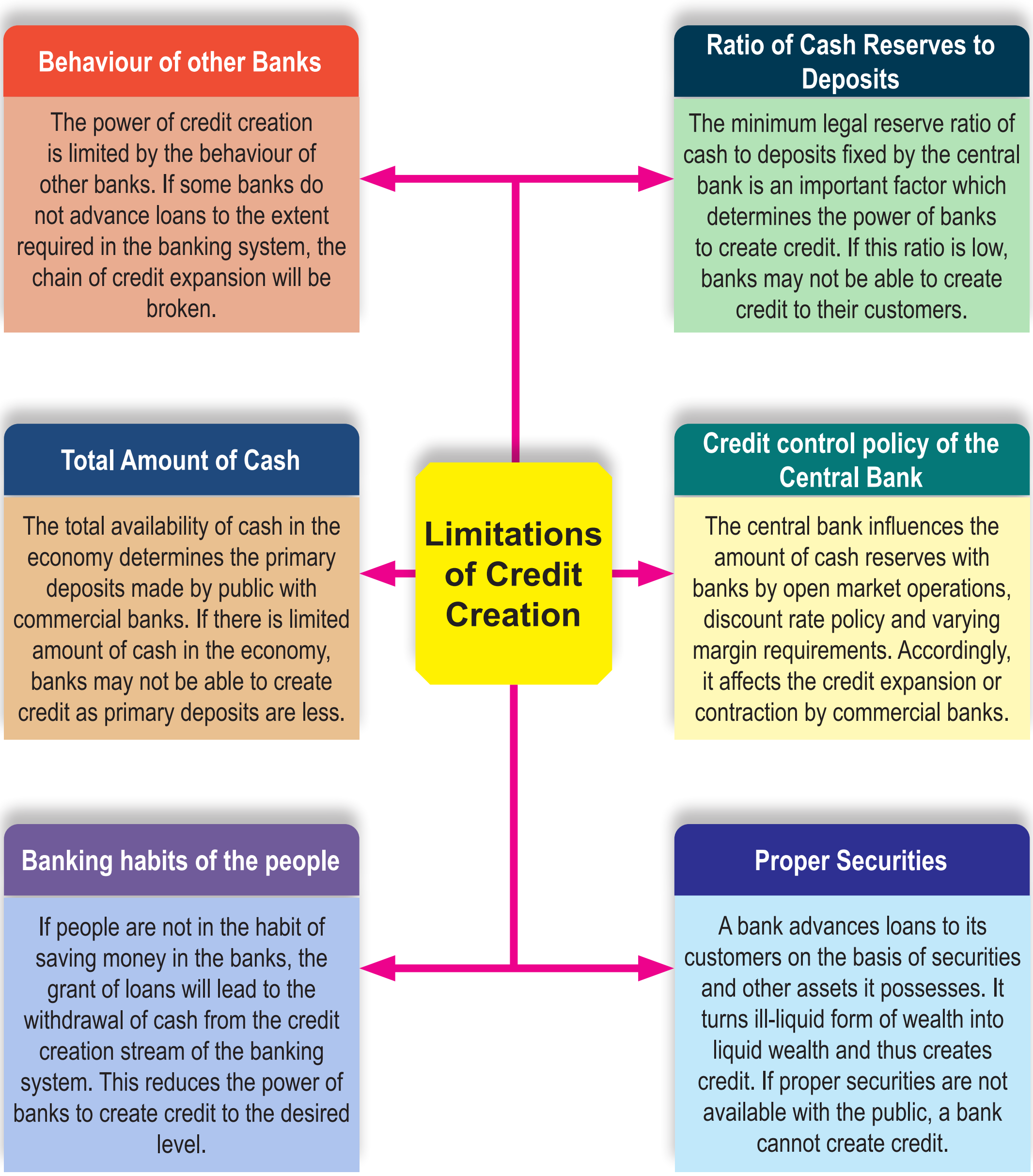

Figure 13.5: Limitations of Credit Creation

Review Questions

1. Choose the correct option for each question:

   i) Which of the following is a qualitative credit control measure adopted by central bank of a country?

      A Bank Rate Policy
      B Open Market Operation
      C Moral Suasion
      D Cash Reserve Ratio

   ii) The deposits created by banks through their lending and investing activities which increases the total money supply in the economy are called

      A Primary Deposits
      B Derivative Deposits
      C Demand Deposits
      D Time Deposits

   iii) If the initial deposit with the first bank is Nu 2,00,000 and the cash reserve ratio is 12.5 %, how much of new deposits will be created through the whole process of credit creation?

      A Nu 18,00,000
      B Nu 16,00,000
      C Nu 200,000
      D Nu 160,000

2. Fill in the blanks:

   i) The cash reserve ratio maintained by commercial banks with RMA at present is …………………………….

   ii) During economic recession, the RMA will ……………………..the bank rate.

   iii) When the central bank buys or sells securities to the banking and non-banking public, this is called ……………………………………..

3. Explain the following terms:
   i) Demand Deposits
   ii) Bank Overdraft
4. Financial institutions are considered as 'agents of economic growth' for a country like Bhutan. Comment.
5. Differentiate between expansionary monetary policy and contractionary monetary policy of a central bank.
6. Assuming that initial deposit with the first bank is Nu 12000 and the cash reserve ratio is 10%, explain the process of credit creation by commercial banks.
7. Commercial banks can create credit depending on the funds available. However, there are certain limitations in creating credit. Explain these limitations apart from the ones discussed in this chapter.

Chapter 14

Inflation

Learning Objectives

1. Examine cost-push and demand-pull inflation.
2. Evaluate the impact of inflation and deflation in an economy and on personal life.

14.0.Introduction

Inflation has been the most common feature of both developed and developing economies. It is one of the most serious macroeconomic problems confronting the economy today. The inflation and the problems associated with it have called for more attention than other macroeconomic problems in the world. Inflation's effects on economy are innumerable and can be at the same time beneficial or damaging. Harmful effects of inflation include decrease in the real value of money and shortage of goods due to hoarding. Positive effects include warranting central bank to pay nominal interest to mitigate recession and encourage investment in production of goods and services. Economists favour a low and steady rate of inflation in an economy. Therefore, understanding the magnitude and effect of inflation in an economy is of utmost importance.

This chapter discusses about inflation and deflation; measures to control the two situations, and their impacts on the economy and personal life.

14.1. Inflation

Inflation is generally defined as a persistent and sustained rise in the general price level in the economy over a period of time. It is important to note the following three things in understanding inflation.

i) Inflation refers to a process of rising prices and not a state of high prices.

ii) Inflation refers to a situation of considerable rises in aggregate price level.

iii) Inflation does not refer to a one time rise in price level rather to a continued rise in price level.

Types of Inflation

Inflation is generally classified on the basis of its rate and causes. The types of inflation are shown in Figure 14.1.

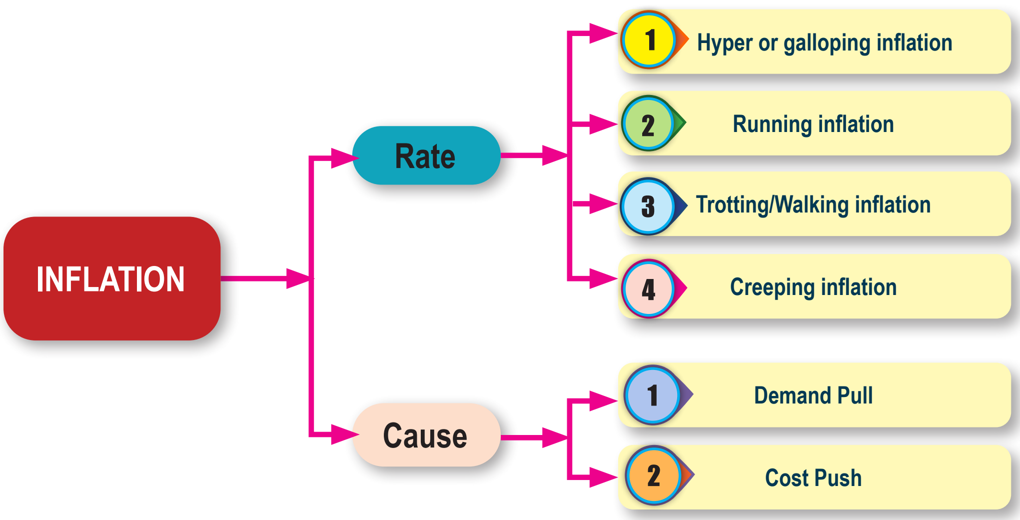

Figure 14.1: Types of Inflation

1. The inflation based on rate are classified as:

a. Creeping inflation:

When the price level increases at a very slow rate, say at the rate of only 2 percent to 3 percent per year. It is also known as mild inflation.

b. Walking or trotting inflation:

When prices increase moderately at the rate of 3 percent to 6 percent per annum, it is known as walking inflation.

c. Running inflation:

If the price level rises a bit faster and the rate of growth of price is about 8 percent to 10 percent per annum, it is called running inflation. Running inflation is the warning signal indicating the need for control.

d. Hyper or galloping inflation:

If price increases at 20 percent to 30 percent per month, it is treated as hyperinflation. In this stage, price rise goes out of control. Hyperinflation is mainly caused by an increase in money supply not supported by economic growth and when aggregate demand exceeds aggregate supply.

2. The type of inflation classified on the basis of its causes are:

a. Demand-pull inflation

When the demand for a good or service is more than the supply at the existing price, it is known as demand- pull inflation. It is also known as 'demand side' inflation. Demand-pull inflation is caused by factors like increase in consumer demand due to rise in government spending, shortage of supply, availability of easy credit, and hoarding. It can be explained with the help of Figure 14.2.

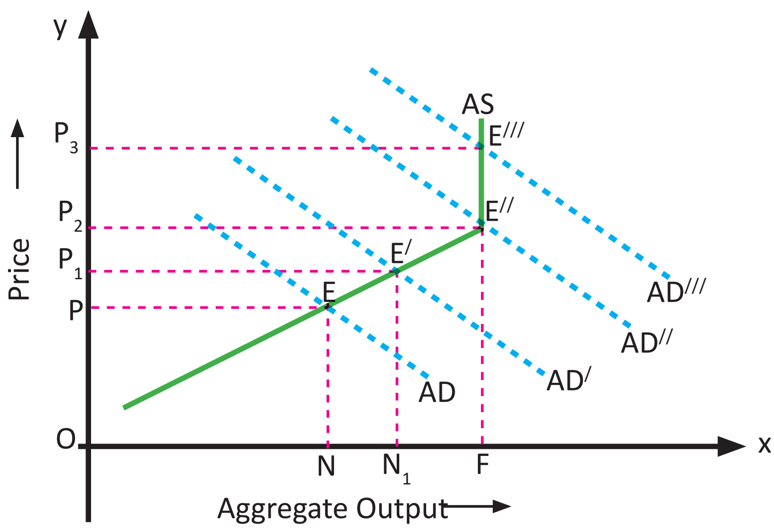

Figure 14.2: Demand Pull Inflation

In Figure 14.2, X-axis and Y-axis represents price and aggregate output respectively. The aggregate demand curve AD and aggregate supply curve AS intersect at equilibrium point E giving OP level of price and ON level of output. When purchasing power of people rises, aggregate demand also increases leading to a shift in aggregate demand curve towards right from AD to where the new equilibrium is point giving OP1 level of price and ON1 level of output. The rise in price and output continues till it reaches OF (Full Employment) level of output where AS curve becomes vertical. When price further increases from OP2 to OP3, output remains same at full employment level of output (OF) where AS curve is perfectly inelastic. Rise in price from OP2 to OP3 is termed as 'pure inflation'.

b. Cost-push Inflation

When the price of a commodity increases continuously due to increase in the cost of production, it is known as cost-push inflation. It is also known as 'supply side' inflation. Cost-push inflation is caused by factors which push up the cost of production such as increase in prices of raw materials, rise in wage rate, increase in profit margins of the firms, existence of monopolies, occurrence of natural disaster and government regulations. It can be explained with the help of Figure 14.3

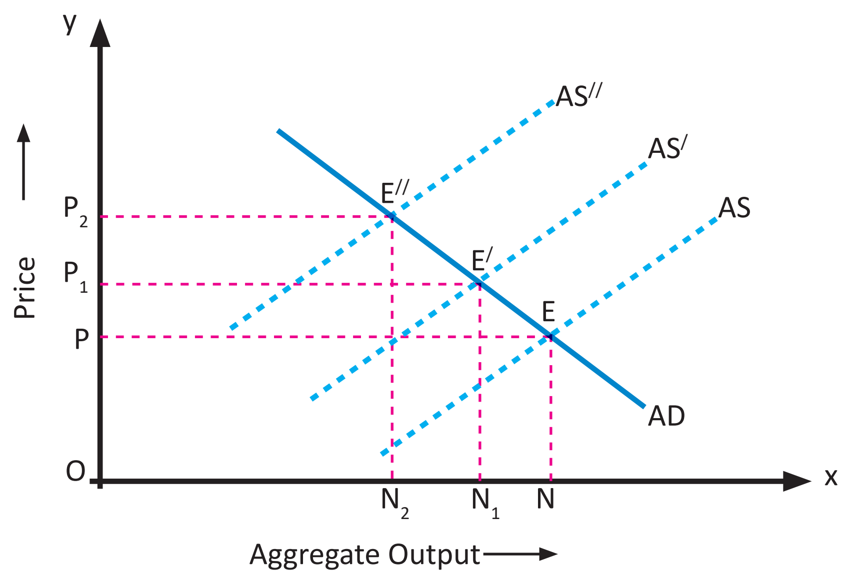

Figure 14.3: Cost-Push Inflation

In Figure 14.3, price and output are measured along vertical and horizontal axis respectively. The aggregate demand and aggregate supply curves intersect at point E giving OP level of price and ON level of output where aggregate demand is equal to aggregate supply. Decrease in supply due to various factors leads to shift in AS curve towards left from AS to . As a result, price increases from OP to OP1 and output decreases from ON to ON1 forming a new equilibrium at where new aggregate supply ( ) curve intersects old demand curve AD. Similarly, if supply again decreases, the supply curve further shifts to left hand side from to . This pushes the price upward from OP1 to OP2,while output falls from ON1 to ON2 giving a new equilibrium point at . It is clear from the figure that increase in price is associated with decrease in the level of output and employment. When inflation and stagnation of output occurs simultaneously in the economy, it is termed as 'stagflation'.

Learning Activity 14.1: *Examining the causes of Inflation*

Instructions:

1. From a relevant source, collect the data on inflation rates (Consumer Price Index) of Bhutan for the last five years.
2. Represent the information collected in the form of line graph.

Questions

i) In which years did Bhutan have the highest and the lowest rates of inflation?

ii) What could be the possible reasons for a very high rate of inflation during that particular year?

iii) Examine the common causes of inflation in Bhutanese economy.

iv) Do you think the causes of inflation are same for all the economies of the world? Give reason for your answer.

Impacts of Inflation on Economy and Personal Life

A mild inflation has positive effects on the healthy functioning of the economy as increase in price of goods and services help to earn more profit. It stimulates producers to invest, boost production and generate employment opportunities. Thus, increase in price by 2-3% will have positive effects on the economy. However, if inflationary rate is more than 10%, it results into negative impacts on the economy. Some of the adverse effects of inflation are:

a. Effects on the pattern of production:

During inflationary period, traders and producers may produce only luxury goods to earn maximum profit instead of necessary goods. Luxury goods will benefit only the high income group as the low income group may not afford to consume these goods.

b. It creates hoarding:

Sellers hoard the essential goods by expecting an increase in price in future. It creates artificial scarcity of goods in the economy.

c. Debtors and creditors:

During inflationary period debtors may benefit while creditors may suffer from loss. Debtors benefit because they borrow money when the purchasing power of money is high and repay when the purchasing power becomes low. On the other hand, creditors lose as they receive less in real terms because the value of money falls. Thus, inflation bring about a re-distribution of real wealth in favour of debtors at the cost of creditors

d. Fixed Income group:

During inflation, both pensioners and salaried class suffer because they have fixed income and it is difficult to adjust their daily expenditure.

e. Effects on saving:

Inflation reduces the propensity to save, as people have to spend all their income for consumption expenditure. Therefore, when saving is low the funds available for investment will be low, affecting growth and development.

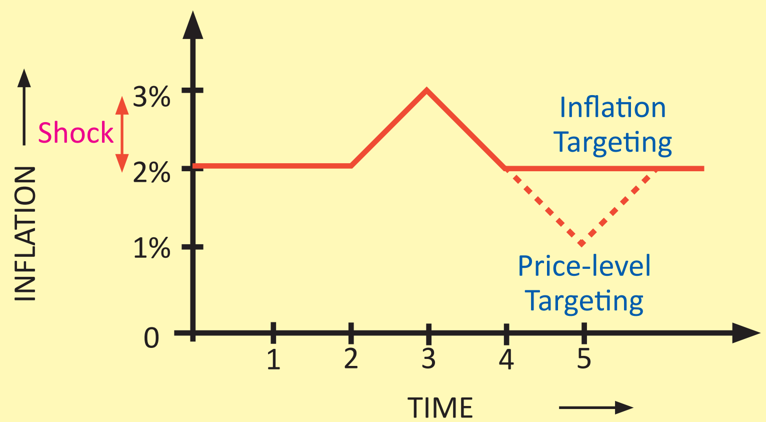

Figure 14.4: Inflation Targeting

Figure 14.4 makes clear that expectations depend crucially on the regime in place. For example, suppose the central bank announces an inflation target of 2%. When inflation unexpectedly rises to 3% in period 3, rational households and firms will anticipate future inflation of 2% in periods 4 and 5. By contrast, expected inflation in period 5 would be only 1% with a price-level target, because price targeting calls for below-average inflation in this period. The central bank is obliged to offset past inflationary shocks in this way, targeting prices is 'history dependent' (Woodford 2003). This mechanism is important for understanding why price-level targeting gives different outcomes to inflation targeting in New Keynesian models.

14.2. Fiscal Measures

The inflation in an economy can be controlled by a government policy. This is called as 'Contractionary Fiscal Policy'. The government uses following fiscal tools to control inflation.

a. Public Expenditure:

During inflationary period government must reduce public expenditure. When public expenditure decreases, purchasing power of the people decreases and thereby inflation can be controlled.

b. Public Borrowing:

During inflationary period, government must increase public borrowing. When government borrow from the public, the cash available with the public will reduce. The reduction of cash in the hands of public will lower their purchasing power and hence fall in the demand. Fall in aggregate demand leads to falling prices and inflation is controlled.

c. Taxation:

During inflationary period government must increase the tax burden. Tax burden can be imposed by increasing existing tax rate or introducing new taxes. With these, price becomes very high and demand becomes very low. Decrease in demand helps to control inflationary pressure in the economy.

Learning Activity 14.2: *Examining the Measures to Control Inflation*

Instructions:

Read the recent measures taken by central bank (RMA) and government to control inflation in our country and answer the questions.

Questions

i) What measures do you think central bank should take to control inflation in a country?

ii) What are some of the fiscal measures taken by the government to control inflation in Bhutan?

iii) Should government fix prices of essential goods during economic crises? Justify with valid reasons to support your opinion

14.3. Deflation

Deflation is an opposite phenomenon of inflation. Deflation refers to a decrease in the general price level of goods and services over a sustained period of time. Basically, deflation occurs when the rate of inflation falls below zero percent. Inflation devalues the currency while deflation appreciates it. Some of the causes of deflation are reflected in Figure 14.5

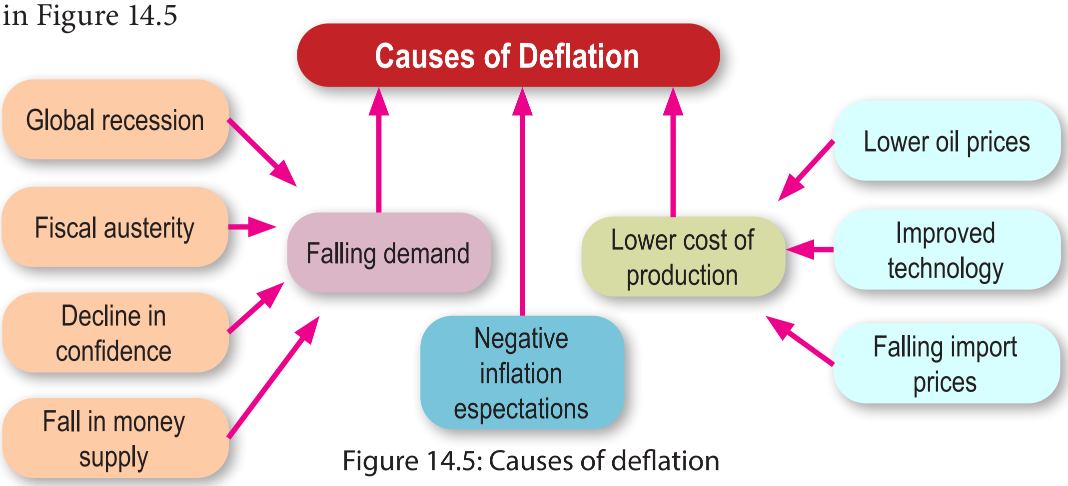

Figure 14.5: Causes of deflation

Effects of Deflation on Economy and Personal Life

For the consumers, deflation may seem like a good thing, but it signals an impending recession and economic hard times on the economy as a whole. When prices are falling down, people delay to purchase good or service in the hope that they will get things for lesser price in the future. But lower spending leads to low income for producers which can further cause unemployment and higher interest rates. In a nutshell, deflation leads to more deflation (deflation spiral) which is shown in Figure 14.6.

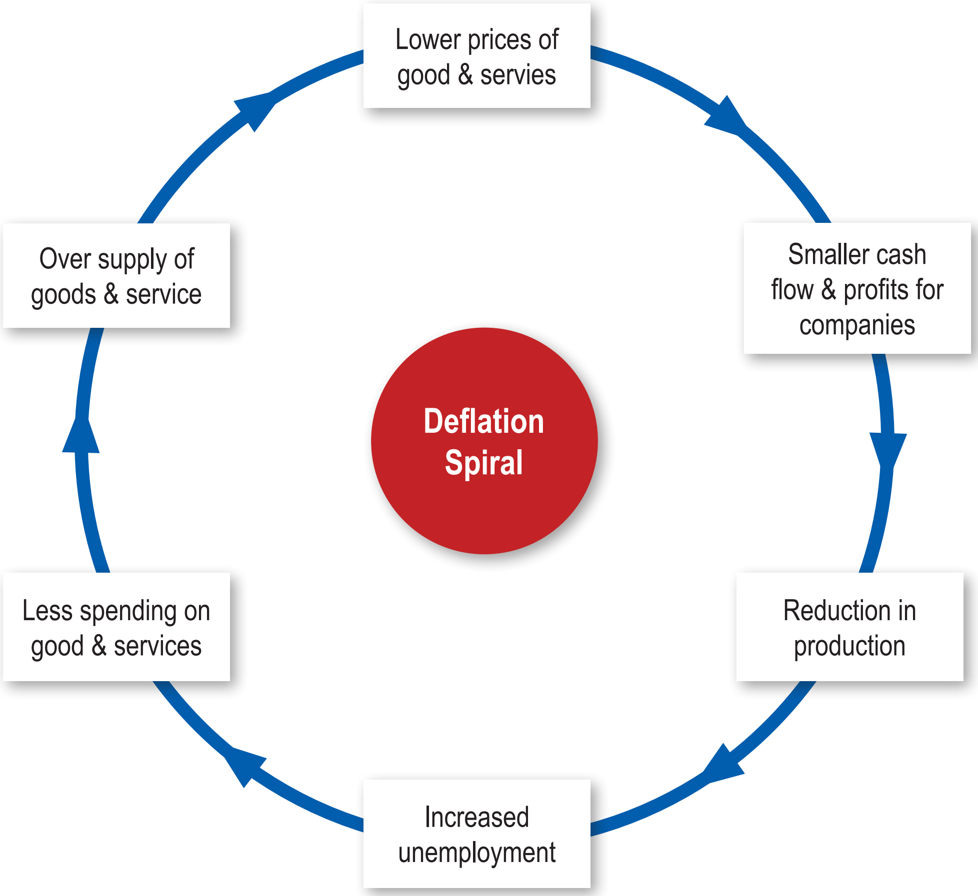

Figure 14.6 Deflation Spiral

Review Questions

1. During inflationary period, aggregate demand will ……….. and disposable income of the consumer will …………….. due to increase in money supply in the economy.
2. The excess of actual aggregate demand over aggregate supply at level of full employment is termed as ……………………
3. Which type of inflation; cost-push or demand-pull is more dominant in our country? Critically evaluate your views on it.
4. Why do you think inflation in Bhutan is a borrowed inflation?
5. Were you affected by inflation in the recent times? Discuss this issue based on your experience as a consumer.
6. 'Inflation is considered as a 'double-edged sword' for the economy'. Critically evaluate the positive and negative impacts of inflation.

ASSESSMENT IN ECONOMICS

Educational assessment is the process of documenting, usually in measurable terms, the outcomes of knowledge, skills, attitudes and beliefs of the learners. This includes the processes of gathering and interpreting information about the progress of their learning. In order for the assessment to be valuable to individuals and organisations, the assessment must be accurate and objective. Learners should be well informed about what will be assessed and how it will be assessed. This makes the teacher's expectations clear to the learners to set appropriate learning outcomes. Teachers can play an important role in the learners' achievement by effectively monitoring their learning and giving them constructive feedback on how they can improve. Teachers can also provide the necessary scaffolding for the needy learners as identified through the reliable assessment techniques and tools.

i. Continuous Formative Assessment (CFA)

Formative assessment is used to provide feedback to teachers and learners, so that teaching and learning can be improved through the provision of regular feedback and remedial learning opportunities for the learners when needed. It also enables the teachers to understand what teaching methods and materials work best.

CFA facilitates the teachers to diagnose the learning needs of the learners and recognise the individual differences in learning. Through the constructive feedback provided, learners can understand their strengths and weaknesses. It also empowers them to be self-reflective learners who monitor and evaluate their own progress. CFA should happen daily throughout the teaching-learning processes of the academic year. It is NOT graded, as it is to give continuous feedbacks to the learners.

The suggested techniques for CFA for the three domains are:

- Economic knowledge: Debate, quiz, question answer session, etc.
- Economic Skills: Field trip, case analysis, Seminar Presentation
- Economic values and attitudes: Group work, field trip, case analysis, and peer interactions

The tools identified for CFA are checklists, anecdotal records, and rating scale.

ii. Continuous Summative Assessment (CSA)

Continuous Summative Assessment is another form of continuous assessment. It helps in determining the learner's performance and the effectiveness of instructions. The feedback from this assessment helps to improve the learners' learning and mandates the teachers to incorporate varied teaching strategies and resources to ensure quality teaching and learning in the economics classes. It empowers learners to be self-reflective learners who monitor and evaluate their own progress. In CSA, the learner's performances and achievement are graded. This ensures active participations of learners in the teaching-learning processes.

The suggested techniques for CSA for the three domains are:

- Economic knowledge: Class tests.
- Economic Skills: Project work
- Economic values and attitudes: Group work observation.

The main tools for CSA are rubrics, rating scale and paper pencil tests.

iii. Summative Assessment (SA)

Summative assessment (SA) is conducted at the end of the first term and at the end of the year to determine the level of learning outcomes achieved by the learners. The information gathered is used by the teachers to grade learners for progression and to report to parents and other stakeholders.

The identified techniques for SA are term examinations – term I and term II examinations. The questions for the term examinations should cover all the three domains of economics learning objectives using the principles of Bloom's taxonomy.

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Assessment Matrix

Broad assessment based on Knowledge, Skills and Values and Attitudes (KSA)

Assessment type	**Formative assessment**			**Continuous Summative Assessment**			**Summative Assessment**	
Domains	Economic Knowledge	Economic Skill	Economic Values & Attitude	Economic Knowledge	Economic Skill	Economic Values & Attitude	KSA Term I	KSA Term II
Techniques	Debate, Quiz, Question Answer Sessions	Field trip, Case study, Seminar Presentation	Group work, field trip, case analysis, peer interactions	Class Test	Project Work	Observation	Exams	Exams
Assessment tools	Checklist & Rating Scale	Rating Scale & Anecdotal notes, Rubrics	Checklist & anecdotal notes	Paper-Pencil-Test	Rubrics	Rating Scale & rubrics	Paper-pencil test	Paper-pencil test
Frequency	Maintain checklist & anecdotal records for classroom assessment	Maintain rating scale & anec-dotal records for classroom assessment	Maintain checklist & anecdotal records for classroom assessment	Once in each Term	One project -assessed at every stage	Assessed at every stage	Once in a term	Once in a term
Weighting				T1=4 T2=4	T1=7 T2=7	T1=4 T2=4	T1=35	T2= 35

Weighting and period allocation

Chapters	Weighting (%)	Time (mins)	Period (40 mins)
Chapter 1- Definitions and Subject Matter of Economics	8	560	14
Chapter 2- Basic Problems of an Economy	7	520	13
Chapter 3- Demand and Law of Demand	9	640	16
Chapter 4- Supply and Law of Supply	9	640	16
Chapter 5- Elasticity of Demand and Supply	8	560	14
Chapter 6- Market Equilibrium	8	560	14
Chapter 7- Forms of Market	6	440	11
Chapter 8- Economic System	7	520	13
Chapter 9- Economy of Bhutan	7	520	13
Chapter 10- Human Capital Formation	6	440	11
Chapter 11- International Trade	7	520	13
Chapter12- Balance of Payments	4	280	7
Chapter 13- Financial Institutions	8	560	14
Chapter 14- Inflation	6	440	11
	100	7200	180

Sample checklist for assessment of debate

Class: → **Criteria** **Name** ↓	Organises the idea points tied to the bigger idea	Presents ideas and information convincingly	Presents ideas clearly with originality	Supports the arguments with relevant facts & figures	Provides accurate counter arguments	Completes presentation on time	Demonstrates courteous body and spoken language	Teacher's Comments
Tshering								
Sonam								

Sample Anecdotal notes for assessment of group work

Date:		Class:	Lesson Topic:
Name of Student:		Observation/Comments	
1	Contribution		
2	Skill Input		
3	Responsibility		
4	Respect for Other		
5	Cooperation & Collaboration		

Sample checklist for field trip

Key: ✓ Yes ✘ No Class: .... Criteria → Name ↓	Criteria The student is able to: dressed in a way to stay comfortable during the entire field trip	demonstrated expected behavior during the field trip without a reminder.	listened to all of the lesson and helped to create a good learning environment	respected the time and expertise of the presenter	listened attentively and wrote all the points.	asked relevant question and listened to the responses.	followed all the safety directions without needing a reminder.	Teacher's Comments
Tshering								
Sonam								

Sample checklist for Peer Interaction (to test Values and Attitude)

Key: ✓ Yes ✘ No Class: .... Criteria → Name ↓	Criteria The student Initiates positive discussions in the class	Respects other ideas	Collaborates with other learners	Demonstrates sensitivity of oneself and others	Teacher's Comments
Tshering					
Sonam					

Sample Rating scale for Observation (Values & attitude)

Class: .... Criteria → Name ↓	Criteria						Teacher's Comments
	Always (4), Sometimes (3), Rarely (2), Never (1)						
	Punctuality	Integrity	Collaboration	Respect for Diversity	Resilience	Resource Management	
Tshering							
Sonam							

Note: Teacher to identify attributes of each parameter and record the observations

Sample Rating scale for case study

Class: .... Criteria → Name ↓	Criteria					Teacher's Comments
	The student					
	Clearly identifies the key issues in the case. (1-4)	Evaluates the information in the case in relation to relevant principles and theories. (1-4)	Identifies realistic and appropriate options or alternatives for rational decisions. (1-4)	Recommends solution for solving the issues presented in the case. (1-4)	Presents the analysis report with appropriate writing format. (1-4)	
Tshering						
Sonam						

Sample rubric for assessment of project work

Name:........................... Roll no:..................... Class/sec:.......................

Criteria	Score				Total Score(28)
	4	3	2	1	
Problem and hypothesis	Problem is new, meaningful and well researched. Hypothesis is clearly stated	Problem is not new but meaningful. Hypothesis is clearly stated.	Problem is stated but not new and so meaningful. Hypothesis is not clearly stated.	Problem is not stated and Hypothesis is unclear.	
Background research on the hypothesis	Research is thorough and specific. All the ideas are clearly explained.	Research is thorough but not specific. Most ideas are explained.	Research is not thorough and not specific. Few ideas are explained.	Research not thorough and ideas are not explained.	
Methodology	Procedure and plans are detailed and sequential. All materials are listed. Ethical issues have been addressed.	Procedure and plans are detailed but not sequential. Most materials are listed. Ethical issues have been addressed.	Procedure and plans not detailed and not sequential. Few materials are listed. Few ethical issues have been addressed.	A few steps of procedure are listed and no concrete plans evident. No materials are listed. Ethical issues were not addressed.	
Investigation/ Data collection	Variables have been identified and explained. Sample size is appropriate and explained. Data collected from appropriate number of sources.	Variables have been identified but not explained. Sample size is appropriate. Data collected from appropriate number of sources.	Variables have somewhat been identified. Sample size is not appropriate. Data collected from reasonable number of sources.	Missing two or more of the variables. Sample size is not considered. Data collected from limited number of sources.	
Analysis	Conclusion is supported by the data. Explanation is made for how or why the hypothesis was supported or rejected. Reflection of what was learned and how it could be made better is made.	Conclusions are supported by the data. Not enough explanation is made for how or why the hypothesis was supported or rejected. Reflection of what was learned and how it could be made better is made.	Conclusions are not supported by enough data. Not enough explanation is made for hypothesis Reflection is not clear.	Conclusions are not supported by data. Not enough explanation is made for the hypothesis Reflection is not stated.	
Format and editing	Correct format followed throughout. Report is free of errors in grammar, spelling or punctuation.	Only one aspect of format is incorrectly done. Report contains a few errors in grammar, spelling, and punctuation.	Only two aspects of format are incorrectly done. Report contains some errors in grammar, spelling, punctuation	Three or more aspects of format are missing or incorrect. Report contains many errors in grammar, spelling, and punctuation.	
Bibliography	Five or more references are cited in APA format and referenced throughout the paper and presentation.	Three or four references are cited in APA format and referenced throughout the paper and presentation.	One or two references are cited and referenced throughout the paper and presentation.	No references made.	

(Name & signature of Subject Teacher)

Question pattern for term examinations

1. Part A
   i. Objective types : 50 Marks
2. Part B
   i. Extended response : 50 Marks

Total Marks :100 Marks