

BA5101 ECONOMIC ANALYSIS FOR BUSINESS

UNIT - I

INTRODUCTION

The themes of economics – scarcity and efficiency – three fundamental economic problems – society’s capability – Production possibility frontiers (PPF) – Productive efficiency Vs economic efficiency – economic growth & stability – Micro economies and Macro economies – the role of markets and government – Positive Vs negative externalities

Meaning:

The word ‘Economics’ originates from the Greek work ‘*Oikonomikos*’ which can be divided into two parts:

- (a) ‘*Oikos*’, which means ‘Home’, and
- (b) ‘*Nomos*’, which means ‘Management’.

Thus, Economics means ‘Home Management’. The head of a family faces the problem of managing the unlimited wants of the family members within the limited income of the family

Definition:

- *It is defined as a social science that studies how individuals, governments, firms and nations make choices on allocating scarce resources to satisfy their unlimited wants.* Economics can generally be broken down into: macroeconomics, which concentrates on the behavior of the aggregate economy; and microeconomics, which focuses on individual consumers.
- *Economics is the study of how society chooses to use productive resources that have alternative uses, to produce commodities of various kinds, and to distribute them among different groups.*

Evolution of Economics

Economics was developed by several economists with different vision. Generally, the development of economics is divided into:

- Classical Period (1776-1890)
- Neo-Classical Period (1890-1932)
- Modern Period (1932-onwards)

Classical Period (1776-1890)

The famous economists of this period were Adam Smith, T.R. Malthus, J.B. Say, David Ricardo, etc. These economists are pillar of the classical economics. The study of economics in and around wealth and its significance.

Neo-Classical Period (1890-1932)

The famous economists of this period were Alfred Marshall, A.C. Pigou, Carl Marx, etc. The study of economics as the satisfaction or welfare derived from the consumption of material goods.

Modern Period (1932-onwards)

The famous economists of this period were Leonel Robbins, J.M. Keynes, etc. The study of economics for changing the focus of the study are 'wealth and aspect' and 'material welfare' to 'scarcity and choice' and 'human development'.

Development of Economics

Economists at different times have emphasized different aspects of economic activities, and have arrived at different definitions of Economics.

These definitions can be classified into four groups:

1. Wealth definitions,
2. Material welfare definitions,
3. Scarcity definitions, and
4. Growth-centered definitions.

Wealth definition:

Adam Smith, considered to be the founding father of modern Economics, *defined Economics as the study of the nature and causes of nations' wealth or simply as the study of wealth*. The central point in Smith's definition is wealth creation. He assumed that, the wealthier a nation becomes the happier. Thus, it is important to find out, how a nation can be wealthy. *Economics is the subject that tells us how to make a nation wealthy*.

Material welfare definition:

Alfred Marshall also stressed the importance of wealth. But he also emphasized the role of the individual in the creation and the use of wealth. He wrote: *"Economics is a study of man in the ordinary business of life. It enquires how he gets his income and how he uses it. Thus, it is on the one side, the study of wealth and on the other and more important side, a part of the study of man"*. Marshall's definition is considered to be material-welfare centered definition of Economics.

Scarcity definition:

The next important definition of Economics was due to Prof. Lionel Robbins. In his book *'Essays on the Nature and Significance of the Economic Science'*, published in 1932, Robbins gave a definition which has become one of the most popular definitions of Economics. According to Robbins, *"Economics is a science which studies human behaviour as a relationship between ends and scarce means which have alternative uses"*. It is a scarcity based definition of Economics.

Modern Growth-Oriented Definition of Samuelson

Professor Samuelson writes, *"Economics is the study of how people and society end up choosing, with or without the use of money, to employ scarce productive resources that could have alternative uses to produce various commodities over time and distributing them for consumption, now or in the future, among various persons or groups in society. It analyses costs and benefits of improving patterns of resource allocation"*

Nature of Economics:

- **Economic theories can broadly be divided into two parts, viz., macroeconomics and microeconomics.**
 - Macroeconomics is concerned with the economic magnitudes relating to the whole economy (such as national income, national production, etc.)
 - Microeconomics is concerned with the decision-making of a single economic entity (such as a business firm) within this system
- **Prescriptive in nature:** Managerial economics actually prescribes the ways through which a business firm can achieve its goal within its constraints. It prescribes the policies that should be undertaken by any business firm for achieving its specific target
- **Pragmatic in its approach:** Managerial economics is pragmatic in its approach because it emphasizes on the real-life problems faced by any business firm and their possible solutions

- **Emphasizes on quantitative analysis:** Managerial economics is mainly concerned with some of the quantitative aspects of business decisions. Business decisions relating to
 - (i) output to be produced,
 - (ii) inputs to be used,
 - (iii) prices to be fixed,
 - (iv) estimated cost and revenue schedules, etc., are expressed in quantitative terms
- Economics aims at providing help in decision making by firms.
- **Choice and Allocation:**

Economics is concerned with decision-making of economic nature. This implies that economics deals with identification of economic choices and allocation of scarce resources on the best alternative.
- **Multi-disciplinary:**

Economics is an integration of different academic disciplines.
- **Normative in Nature:**

Normative economics makes value judgments and prescribes what should be done to solve economic problems.
- **Positive Economics**

A positive science explains "why" and "wherefore" of things. i.e. causes and effects
- **Economics is both science as well as art also**

Scope of Economics:

‘Scope’ means the sphere of study. We have to consider what economics studies and what lies beyond it. The scope of economics will be brought out by discussing the following.

- a) **Subject – matter of economics.**
- b) **Economics is a social science**
- c) **Whether Economics is a science or an art?**
- d) **If Economics is science, whether it is positive science or a normative science?**

a) **Subject – matter of economics:**

Economics studies man’s life and work. It does not study how a person is born, how he grows up and dies, how human body is made up and functions, all these are concerned with biological sciences, Similarly Economics is also not concerned with how a person thinks and the human organizations being these are a matter of psychology and political science. Economics only tells us how a man utilizes his limited resources for the satisfaction of his unlimited wants, a man has limited amount of money and time, but his wants are unlimited. He must so spend the money and time he has that he derives maximum satisfaction. This is the subject matter of Economics.

Economic Activity: A worker is working in factory, a Doctor attending the patients, a teacher teaching his students and so on. They are all engaged in what is called “Economic Activity”. They earn money and purchase goods. Neither money nor goods is an end in itself. They are needed for the satisfaction of human wants and to promote human welfare. To fulfill the wants a man is taking efforts. Efforts lead to satisfaction. Thus wants- Efforts-Satisfaction sums up the subject matter of economics.

b) **Economics is a social Science:**

In early stage, the society has the connection between wants efforts and satisfaction is close and direct. But in a modern Society things are not so simple and straight. Here man produces what he does not consume and consumes what he does not produce. When he produces more, he has to sell the excess quantity. Similarly he has to buy a product which is not produced by him. Thus the process of buying and selling which is called as Exchange comes in between wants efforts and satisfaction. Nowadays, most of the things we need are made in factories. To make them the worker gives his labour, the land lord his land, the capitalist his capital, while the businessman organizes the work of all these.

They all get reward in money. The labourer earns wages, the landlord gets rent the capitalist earns interest, while the entrepreneur's (Businessman) reward is profit. Economics studies how these income—wages, rent interest and profits—are determined. This process is called "Distribution: Thus we can say that the subject-matter of Economics is

1. Consumption- the satisfaction of wants.
2. Production- i.e. producing things, making an effort to satisfy our wants
3. Exchange- its mechanism, money, credit, banking etc.
4. Distribution – sharing of all that is produced in the country. In addition, Economics also studies "Public Finance"

Macro Economics – When we study how income and employment is generated and how the level of country's income and employment is determined, at aggregated level, it is a matter of macro-economics. Thus national income, output, employment, general price level economic growth etc. are the subject matter of macro Economics.

Micro-Economic – When economics is studied at individual level i.e. consumer's behavior, producer's behavior, and price theory etc it is a matter of micro-economics.

c) Economics, a Science or an Art? Whether Economics is a science or an art? Let us first understand what is terms 'science' and 'arts' really means.

A science is a systematized body of knowledge. A branch of knowledge becomes systematized when relevant facts have been collected and analyzed in a manner that we can trace the effects back to their and project cases forward to their effects. In other words laws have been discovered explaining facts, it becomes a science, In Economics also many laws and principles have been discovered and hence it is treated as a science. An art lays down formulae to guide people who want to achieve a certain aim. In this angle also Economics guides the people to achieve aims, e.g. aim like removal poverty, more production etc. Thus Economics is an art also. In short Economics is both science as well as art also.

d) Economics whether positive or normative science:

A positive science explains "why" and "wherefore" of things. i.e. causes and effects and normative science on the other hand rightness or wrongness of the things. In view of this, Economics is both a positive and. normative science. It not only tells us why certain things happen, it also says whether it is right or wrong the thing to happen. For example, in the world few people are very rich while the masses are very poor. Economics should and can explain not only the causes of this unequal distribution of wealth, but it should also say whether this is good or bad. It might well say that wealth ought to be fairly distributed. Further it should suggest the methods of doing it.

Factors of Production: It refers to the resources used to produce goods and services in a society. Economists divide these resources into the four categories described below.

- **Land** refers to all natural resources. Such things as the physical land itself, water, soil, timber are all examples of land. The economic return on land is called **rent**. For example, a person could own land and rent it to a farmer who could use it to grow crops. A second resource is labor.
- **Labor** refers to the human effort to produce goods and services. The economic return on labor is called **wages**. Anyone who has worked for a business and collected a paycheck for the work done understands wages. A third factor of production is capital.
- **Capital** is anything that is produced in order to increase productivity in the future. Tools, machines and factories can be used to produce other goods. The field of economics differs from the field of finance and does not consider money to be capital. The economic return on capital is called **interest**.
- **Entrepreneurship** refers to the management skills, or the personal initiative used to combine resources in productive ways. Entrepreneurship involves the taking of risks. The economic return on entrepreneurship is **profits**

TWIN THEMES OF ECONOMICS

Scarcity and Efficiency refers to the Twin themes of Economics;

Scarcity occurs where it's impossible to meet all unlimited the desires and needs of the peoples with limited resources i.e; goods and services. Society must need to find a balance between sacrificing one resource and that will result in getting other.

Efficiency denotes the most effective use of a society's resources in satisfying peoples wants and needs. It means that the economy's resources are being used as effectively as possible to satisfy people's needs and desires.

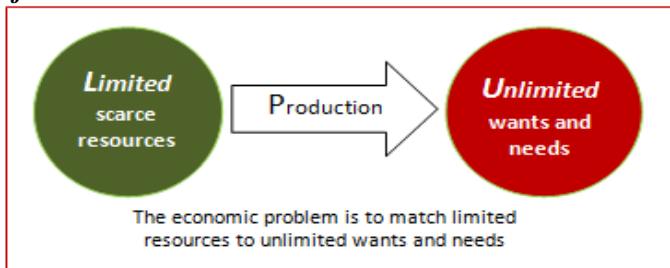
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The economic problem

All societies face the *economic problem*, which is the problem of how to make the best use of limited, or scarce, resources. The economic problem exists because, although the needs and wants of people are endless, the resources available to satisfy needs and wants are limited.

“The economic problem is essentially a problem arising from the necessity of choice ; choice of the manner in which limited resources with the alternative uses are disposed off. The problem of choice making arising out of limited means and unlimited wants is called economic problem.



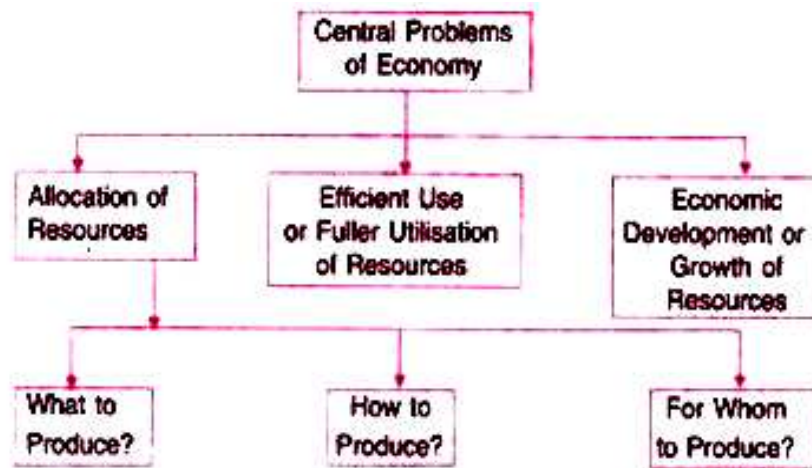
Why do Economic Problems Arise?

1. **Unlimited wants.** Human wants are unlimited. As we satisfy one want, many more new wants come up. Besides this, one cannot satisfy even one particular want for all times to come
2. **Different priorities.** All wants are not equally important. Some are more important and some are less. So, a man can satisfy his different wants in order of his priorities.
3. **Limited means.** If means would have also been unlimited to satisfy unlimited wants, there would have been no economic problem. The reality of the life is different i.e., the existing supply of resources is inadequate in relation to the known desires of individuals. This gives rise to the problem of scarcity which is the basis of all economic problems.
4. **Means having alternative uses.** Means are not only limited but they can also be used for different alternative uses. For example, wood may be used for fuel, furniture, house construction and many other uses

BASIC OR CENTRAL OR FUNDAMENTAL PROBLEMS OF ECONOMY

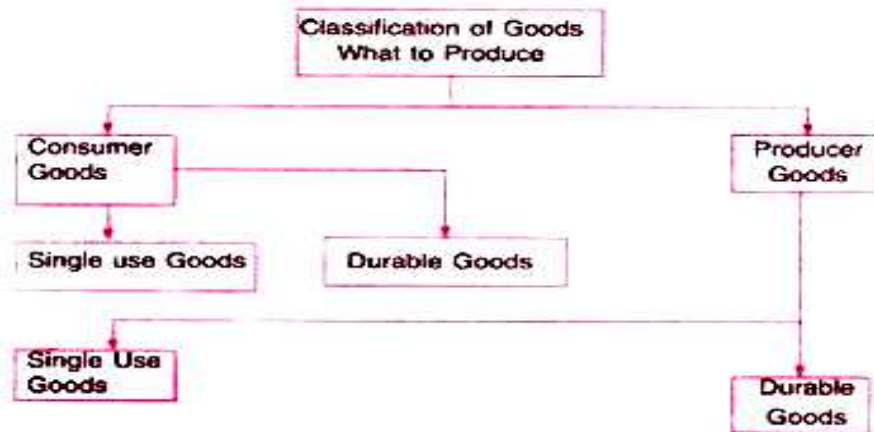
I. Allocation of Resources

The available resources of the society may be used to produce various commodities for different groups and in different manner. It requires that decisions regarding the following should be made:



1. What to produce? (Types and amount of commodities to be produced)

Land, labour, capital, machines, tools, equipments and natural means are limited. Every demand of every individual in the economy cannot be satisfied, so the society has to decide what commodities are to be produced and to what extent. Goods produced in an economy can be classified as consumer goods and producer goods. These goods may be further classified as single use goods and durable goods.



Factors which determine what to produce:

- **Consumers' needs** – The producers would have to take into consideration the needs of the consumers. They have to decide what needs to produce, the quantity and quality of goods and services required by the consumers.
- **Market demand** – The demand of a particular set of goods and services by consumers may encourage producers to produce more of these goods.
- **Consumer income** – In deciding what to produce, the producer normally take into consideration the earnings of the consumers in the society. Producers normally ask themselves this question: Are the consumers earning enough to be able to purchase the goods and services at a given price when produced. if yes, they go ahead and produce but if no, they may not produce.
- **Cost of production** – He produces when the cost of production is low to enable him make some profit.
- **Availability of resources:** When resources of production are available and affordable, the producers will be encouraged to produce goods and services. Since economic resources are scarce or limited, it follows that the producers may not always have enough to produce commodities in abundance to meet the needs of the consumers.
- **Type of economy** - The type of economic system in a given society determines the type and quantity of goods and services to be produced. For example, in a capitalist economy, the price system determines the type and quantity of goods and services as profit is the major determinant whereas in a socialist economy, the state controls and directs the allocation of resources hence it decides what to produce with the sole aim of satisfying the wants of the whole citizens of the society or state.

2. HOW TO PRODUCE? (Problem of the selection of the technique of production)

After the decision regarding the goods to be produced is taken, next problem arises as to what techniques should be adopted to produce commodity. Goods can be produced in large-scale industries or in small-scale village and cottage industries.

Factors which determines how to produce:

- **Technique of production** – This involves the level of involvement of human labour and machines. The two techniques of labour are (a) labour intensive and (b) capital intensive.
- **Technological advancement** – The method of production adopted by the individual, firm or state depends on the level of technological development of the state.
- **Production function** – This involves any analysis which shows the possible quantity of goods by using each of the given alternative combination of resources that produces the largest quantity of output at the lowest unit of cost of production.
- **cost of factors of production** – The cheaper the relative cost of factors of production, the more the production of goods and services to satisfy human wants.

3. FOR WHOM TO PRODUCE ? (Problem of distribution of income):

Goods and services produced in the economy are consumed by its citizens. The individuals may belong to economically weaker sectioned or rich class of people. Actually this is the problem of distribution. All goods and services produced must get to the final consumers.

Factors which determines who to produce for

- **Satisfaction of wants** or needs of the consumers.
- **Level of income** – the higher the level of income of the consumer, the more they are able to buy goods and services produced.
- **Type of economic system** practiced in the society.

II. Fuller Utilization/Employment of Resources (Efficient use)

Out means and resources are limited and scarce, so they should be properly used. There should not be the wastage of these resources. The problem with the economy is how to use its available resources i.e., land, labour, capital and other resources, so that maximum production with minimum efforts and wastages be made possible

III. Growth of Resources (Economic development)

Increase in the population is the common feature of the economy. It becomes necessary that the rate of economic development must be faster than the rate of increase in the population, so that the economic development may take place and the reasonable standard of living of the citizens can be maintained. In this connection, the economy has to decide about the rate of capital formation, investment and savings

Society's capability:

- Takes the initiative in combining the resources of land, labour, and capital
- Makes strategic business decisions
- Is an innovator
- Commercializes new products, new production techniques, and even new forms of business organization
- Takes risk to get profits

Production Possibility Frontier (PPF)

Definition:

The production possibility frontier

Production Possibility Frontier represents the point at which an economy is most efficiently producing its goods and services and, therefore, allocating its resources in the best way possible. If the economy is not producing the quantities indicated by the PPF, resources are being managed inefficiently

Production Possibility Curve

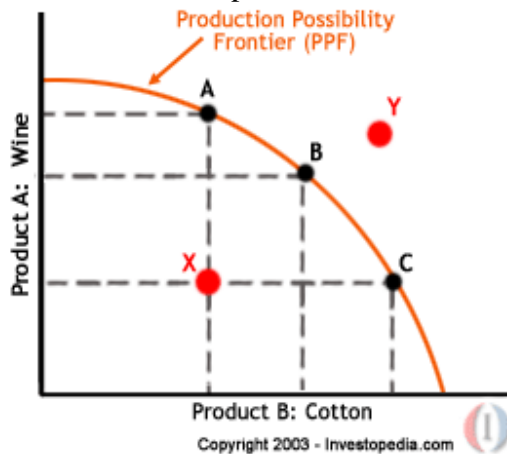
Production Possibility Curve is a curve that shows the possible combinations of any two economic goods an economy can produce by using the available scarce resources.

Assumptions of the concept

1. Human wants are unlimited.
2. The resources are limited but which has alternative uses
3. It takes into consideration the production of only two goods. However, in reality the economy will produce many goods. The life on the earth is not possible only with two goods.
4. It also assumes that the economy has utilized scarce resources efficiently and fully. In other words, the economy is in full employment.
5. PPC is drawn provided that the state of technology is given and it remains constant over the period.
6. Resources available in the economy (which are called factors of production such as land, labour, capital and organizer) are fixed and constant. However, resources can be shifted from one commodity to another.
7. The economy is not able to change the quality of the factors of production. They are also given and constant.
8. It is also assumed that the production only related to short-period rather than long period

Explanation of PPF

Imagine an economy that can produce only wine and cotton. According to the PPF, points A, B and C - all appearing on the curve - represent the most efficient use of resources by the economy. Point X represents an inefficient use of resources, while point Y represents the goals that the economy cannot attain with its present levels of resources.



As we can see, in order for this economy to produce more wine, it must give up some of the resources it uses to produce cotton (point A). If the economy starts producing more cotton (represented by points B and C), it would have to divert resources from making wine and, consequently, it will produce less wine than it is producing at point A. As the chart shows, by moving production from point A to B, the economy must decrease wine production by a small amount in comparison to the increase in cotton output. However, if the economy moves from point B to C, wine output will be significantly reduced while the increase in cotton will be quite small. Keep in mind that A, B, and C all represent the most efficient allocation of resources for the economy; the nation must decide how to achieve the PPF and which combination to use. If more wine is in demand, the cost of increasing its output is proportional to the cost of decreasing cotton production.

Point X means that the country's resources are not being used efficiently or, more specifically, that the country is not producing enough cotton or wine given the potential of its resources. Point Y, as we mentioned above, represents an output level that is currently unreachable by this economy. However, if there was changes in technology while the level of land, labor and capital remained the same, the time required to pick cotton and grapes would be reduced. Output would increase, and the PPF would be pushed outwards. A new curve, on which Y would appear, would represent the new efficient allocation of resources

Importance and Application of the Concept

The concept has got the following importance:

1. Since PPC shows the productive capacity of the economy, it gives reliable answers for the fundamental economic problems of what to produce?, How to produce?, and To whom to produce?.
2. Secondly, it illustrates the concept of opportunity cost. Here the country is trying to produce any two goods. So the production of the one commodity can be increased by reducing the production of other good. This is due to the fact that economic resources are scarce. Also opportunity cost ratios can be calculated.
3. Thirdly, it leads to the efficient allocation of scarce economic resources. More resources should be diverted to the commodity that economy demands more than another commodity.
4. It illustrates the productive potential of the economy. The growth of the economy can be judged from the shifts in the PPC. Economics growth in both quantitative and qualitative terms can be known from PPC.
5. It is very useful in order to achieve the social welfare of the community.
6. Last but not least, PPC can be used by the producers to make their decisions regarding the use of factors of production and it assist in the determination of the costs of the production.

PPC, therefore, shows unemployment of resources, Technological Progress, economic growth and economic efficiency. According to Professor Dorfman,

PPC explains three efficiencies. They are:

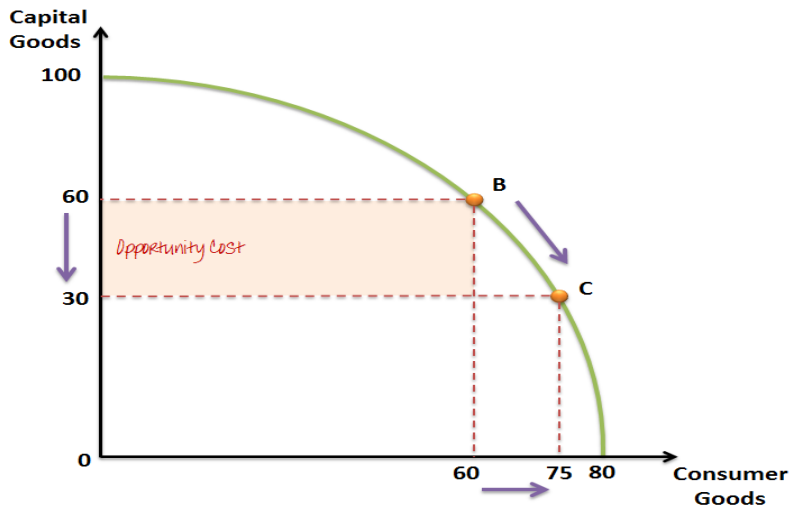
1. Efficient selection of goods to be produced,
2. Efficient allocation of resources in the production of these goods with efficient choice of method of production, and
3. Efficient allotment of the goods produced among consumers.

Usually this concept is applied for individual countries. Also this concept can be applied to the individual companies, farms etc to find out the production possibilities.

B. Opportunity Cost

Opportunity cost is the value of what is foregone in order to have something else. This value is unique for each individual.

You may, for instance, forgo ice cream in order to have an extra helping of mashed potatoes. For you, the mashed potatoes have a greater value than dessert. But you can always change your mind in the future because there may be some instances when the mashed potatoes are just not as attractive as the ice cream. The opportunity cost of an individual's decisions, therefore, is determined by his or her needs, wants, time and resources (income). This is important to the PPF because a country will decide how to best allocate its resources according to its opportunity cost



In the above diagram, when the economy moves from point B to point C, there is an increase in consumer goods from 60 to 75 units, and a fall in capital goods from 60 to 30. So it could be said that, to increase the production of consumer goods by 15 units, there is an opportunity cost of 30 units of capital goods, i.e. We have to *give up* capital goods to produce more consumer goods

C. Trade, Comparative Advantage and Absolute Advantage

Specialization and Comparative Advantage

An economy can focus on producing all of the goods and services it needs to function, but this may lead to an inefficient allocation of resources and hinder future growth. By using specialization, a country can concentrate on the production of one thing that it can do best, rather than dividing up its resources.

For example, let's look at a hypothetical world that has only two countries (Country A and Country B) and two products (cars and cotton). Each country can make cars and/or cotton. Now suppose that Country A has very little fertile land and an abundance of steel for car production. Country B, on the other hand, has an abundance of fertile land but very little steel. If Country A were to try to produce both cars and cotton, it would need to divide up its resources. Because it requires a lot of effort to produce cotton by irrigating the land, Country A would have to sacrifice producing cars. The opportunity cost of producing both cars and cotton is high for Country A, which will have to give up a lot of capital in order to produce both. Similarly, for Country B, the opportunity cost of producing both products is high because the effort required to produce cars is greater than that of producing cotton.

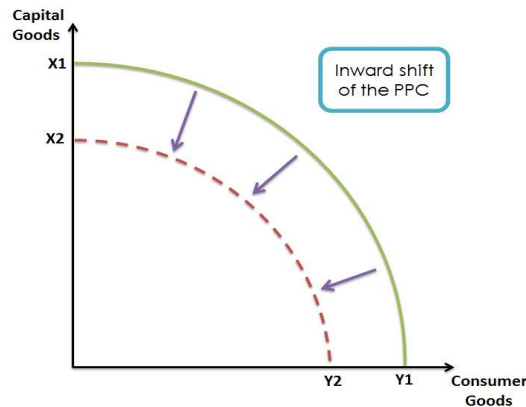
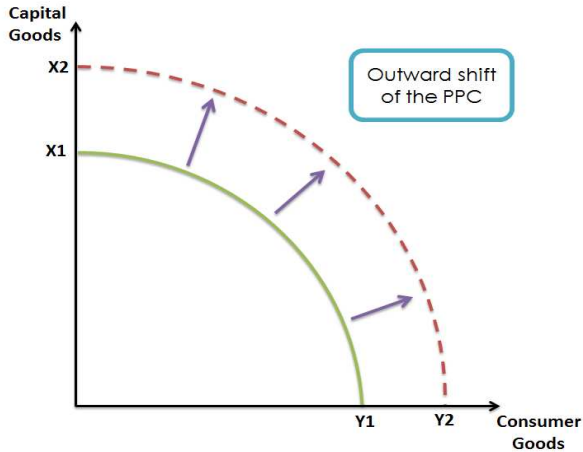
Each country can produce one of the products more efficiently (at a lower cost) than the other. Country A, which has an abundance of steel, would need to give up more cars than Country B would to produce the same amount of cotton. Country B would need to give up more cotton than Country A to produce the same amount of cars. Therefore, Country A has a comparative advantage over Country B in the production of cars, and Country B has a comparative advantage over Country A in the production of cotton.

Absolute Advantage

Sometimes a country or an individual can produce more than another country, even though countries both have the same amount of inputs. For example, Country A may have a technological advantage that, with the same amount of inputs (arable land, steel, labor), enables the country to manufacture more of both cars and cotton than Country B. A country that can produce more of both goods is said to have an absolute advantage. Better quality resources can give a country an absolute advantage as can a higher level of education and overall technological advancement. It is not possible, however, for a country to have a comparative advantage in everything that it produces, so it will always be able to benefit from trade.

Shifts in Production Possibility Frontier

An outward shift of a PPF



Reasons for an outward shift in the PPF:

- an increase in factor resources
- an increase in the efficiency (or productivity) of factor resources
- an improvement in technology

Reasons for an inward shift in the PPF:

- Investment spending is insufficient to replace worn out capital goods
- Natural disaster (hurricanes, tsunami, floods etc.)
- Civil war

Economic Efficiency :Definition

It is defined as an economic state in which every resource is optimally allocated to serve each person in the best way while minimizing waste and inefficiency.

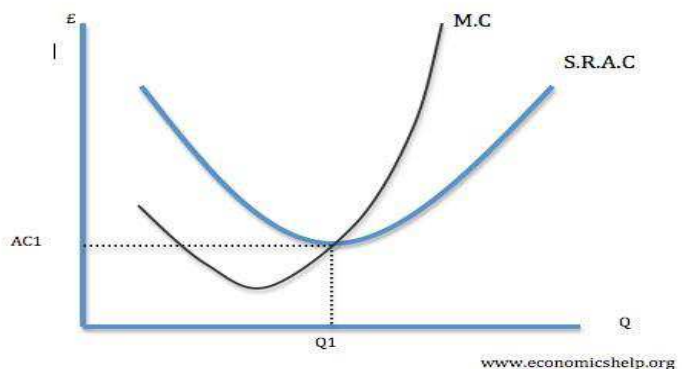
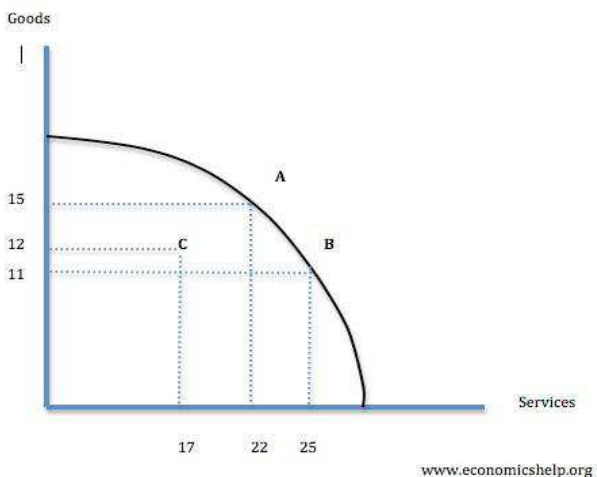
In absolute terms, a situation can be called **economically efficient** if:

- No one can be made better off without making someone else worse off (commonly referred to as Pareto efficiency).
- No additional output can be obtained without increasing the amount of inputs.
- Production proceeds at the lowest possible per-unit cost

When an economy is economically efficient, any changes made to assist one person would harm another. In terms of production, goods are produced at their lowest possible cost, as are the variable inputs of production

Types of Economic Efficiency:

1. Productive efficiency: *This occurs when the maximum number of goods and services are produced with a given amount of inputs.*



Productive efficiency will also occur at the lowest point on the firm's average costs curve. Thus, Productive efficiency is concerned with producing goods and services with the optimal combination of inputs to produce maximum output for the minimum cost. To be productively efficient means the economy must be producing on its production possibility frontier.

- Points A and B are productively efficient.
- Point C is inefficient because you could produce more goods or services with no opportunity cost

2. Technical Efficiency:

Optimum combination of factor inputs to produce a good: related to productive efficiency. Technical efficiency is the effectiveness with which a given set of inputs is used to produce an output. A firm is said to be technically efficient if a firm is producing the maximum output from the minimum quantity of inputs, such as labour, capital and technology.

For example, a firm would be technically inefficient if a firm employed too many workers than was necessary

3. **X inefficiency:** This occurs when firms do not have incentives to cut costs .

For Example:

Not Finding Cheapest Suppliers. Out of inertia, a firm may continue to source raw materials from a high cost supplier rather than look for cheaper raw materials

4. **Pareto efficiency** is however, a situation where resources are distributed in the most efficient way. It is defined as a situation where it is not possible to make one party better off without making another party worse off. Pareto efficiency is said to occur when it is impossible to make one party better off without making someone worse off. It is an economic state where resources are distributed in the most efficient way

5. Allocative efficiency:

This occurs when goods and services are distributed according to consumer preferences. An economy could be productively efficient but produce goods people don't need this would be allocative inefficient. Allocative efficiency occurs when the price of the good = the MC of production

6. Static Efficiency:

It is concerned with the most efficient combination of resources at a given point in time. Static efficiency has two aspects. The first is that there is maximum output of goods given the volume of resources in the economy. Second, the goods produced must be a preferred combination

7. **Dynamic efficiency:** This refers to efficiency over time. Dynamic efficiency involves the introduction of new technology and working practises to reduce costs over time. With this mind, we can define dynamic efficiency as an aspect of economic efficiency that measures the speed or the rate at which the production possibility curve moves from one static equilibrium point to another within a given period.

8. Distributive Efficiency :

It is concerned with allocating goods and services according to who needs them most. Therefore, requires an equitable distribution. Distributive efficiency occurs when goods and services are consumed by those who need them most

9. **Social efficiency:** is the optimal distribution of resources in society, taking into account all external costs and benefits as well as internal costs and benefits. Social Efficiency occurs at an output where Marginal Social Benefit (MSB) = Marginal Social Cost (MSC). Thus, social efficiency occurs when externalities are taken into consideration and occurs at an output where the social cost of production (SMC) = the social benefit (SMB).

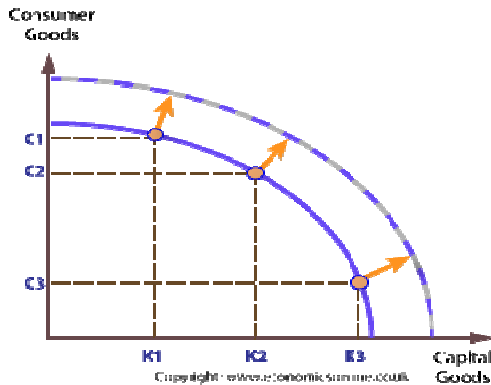
Economic Growth & Stability:

Meaning:

Economic growth is defined as an increase in the output that an economy produces over a period of time, the minimum being two consecutive quarters.

Economic growth is an increase in what an economy can produce if it is using all its scarce resources. An increase in an economy's productive potential can be shown by an outward shift in the economy's production possibility frontier (PPF).

An outward shift of a PPF means that an economy has increased its capacity to produce.



Reasons behind Economic Growth:

Employs new technology

- Investment in new technology increases potential output for all goods and services because new technology is inevitably more efficient than old technology.
- An economy will not be able to grow if an insufficient amount of resources are allocated to capital goods.

Employs a division of labour, allowing specialization

- A division of labour *refers to how production can be broken down into separate tasks, enabling machines to be developed to help production, and allowing labour to specialise on a small range of activities.*
- *A division of labour, and specialisation, can considerably improve productive capacity, and shift the PPF outwards.*

Employs new production methods

- New methods of production can increase potential output.
- The widespread use of computer controlled production methods, such as robotics, has dramatically improved the productive potential of many manufacturing firms.

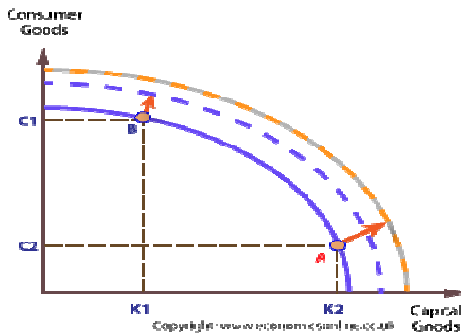
Increases its labour force

- Growth in the size of the working population enables an economy to increase its potential output.

Discovers new raw materials

Discoveries of key resources, such as oil, increase an economy's capacity to produce.

Investment



- Allocating scarce funds to capital goods, such as machinery, is referred to as real investment.
- If an economy chooses to produce more capital goods than consumer goods, at point A in the diagram, then it will grow by more than if it allocated more resources to consumer goods, at point B, below.
- To achieve long run growth the economy must use more of its capital resources to produce capital rather than consumer goods

Factor mobility

If workers, or other resources, are moved from one sector to another, then the position of the PPF will change, with an increase in the maximum output in the industry receiving the resources, and a fall in the maximum output of the industry losing resources

Policies for Economic Growth

Fiscal stabilizers

- Built-in automatic fiscal stabilizers, which include progressive taxes and escalating welfare payments, provide a shock absorber to stabilize an economy following an economic shock.
- The combined effect of these is to create fiscal drag during periods of unusually strong growth, and fiscal boost during periods of very weak growth or negative growth.
- Effective policies and institutions the rule of law, and political stability enhance economic growth
- Infrastructure is a key component of an enabling environment for economic growth. Enterprises need adequate transportation systems from rural roads to airports and ports to access markets for their goods and services.
- A skilled workforce is an important foundation of sustainable economic growth.
- Women play a central role as income earners, in lifting themselves, their families, and their communities out of poverty.
- Agriculture is the largest economic sector in many developing countries. It is a significant generator of employment, contributing to poverty reduction and food security
- sound environmental management: Sustainable and responsible management of natural resources and appropriate responses to climate impacts that enable the long-term viability of the economy
- **Technology policy**

Technology policy refers to policies where government provides incentives for private firms to invest into new technology. These incentives could be in the form of grants, cheap loans, or tax relief.

- **Reducing red-tape and de-regulation**

A key driver of growth for both developed and developing countries is FDI, and this can be encouraged by reducing red tape and unnecessary regulation, and opening up markets to overseas investors.

- Deregulation is when the government reduces or eliminates industry restrictions to improve the ease of doing business. The government will remove a regulation when businesses complain it interferes too much with their ability to compete, especially with foreign companies. However, consumer groups can also prompt deregulation by pointing out how industry leaders are too cozy with their regulatory authority

- **Providing incentives**
National governments can provide incentives for individuals to start their own business and for small businesses to expand.
- **Tax reform**
Redesigning the tax and benefit system to increase the labour activity rate and encourage work and discourage idleness is clearly an important option for countries wishing to improve their supply-side performance.
- **Increasing competitiveness and contestability**
Another important stimulus to supply-side growth is to increase the degree of competitiveness in the micro-economy by promoting contestability, reducing barriers to entry, and by deregulating markets to encourage new entrants.
- **New markets**
Sustainability can also be achieved by encouraging the formation of new markets which exploit new technology or new trading methods. The newly emerging markets for waste and carbon credits, and the development of carbon offsetting schemes, are recent examples of how new markets can emerge, with or without government support.
- **Infrastructure**
Long-term development of infrastructure projects is also central to the promotion of long terms growth and development in a globalised environment. Better infrastructure enables output to be transported at lower cost, as well as generating jobs and other positive externalities

Economic Stability

Economic stability refers to an economy that experiences constant growth and low inflation. Advantages of having a stable economy include increased productivity, improved efficiencies, and low unemployment. Common signs of an instability are extended time in a recession or crisis, rising inflation, and volatility in currency exchange rates. An unstable economy causes a decline in consumer confidence, stunted economic growth, and reduced international investments

Micro economies and Macro economies

Micro Economics definition

Microeconomics is that branch of economics which is concerned with the decision-making of a single unit of an economic system.

- How does an individual (or a family) decide on how much of various commodities and services to consume?
- How does a business firm decide how much of its product (or products) to produce?
- Determination of income, employment, etc. in the economic system as a whole is not the concern of microeconomics.

Thus, microeconomics can be defined as the study of economic decision-making by micro-units.

Importance of Micro Economics

1. Determination of demand pattern:

It determines the pattern of demand in the economy, *i.e.*, the amounts of the demand for the different goods and services in the economy, because the total demand for a good or service is the sum total of the demands of all the individuals.

2. Determination of the pattern of supply

The pattern of supply in the country as a whole can be obtained from the amounts of goods and services produced by the firms in the economy. Microeconomics, therefore, determines the pattern of supply as well.

3. Pricing:

By determining demand and supply, microeconomics helps us in understanding the process of price determination. The prices of the various goods and services determine the pattern of resource allocation in the economy.

4. **Policies for improvement of resource allocation**

Economic development stresses the need for improving the pattern of resource allocation in the country. Development policies, therefore, can be formulated only if we understand how the pattern of resource allocation is determined.

5. **Solution to the problems of micro-units:**

Finally, it goes without saying that, since the study of microeconomics starts with the individual consumers and producers, policies for the correction of any wrong decisions at the micro-level are also facilitated by microeconomics. For example, if a firm has to know exactly what it should do in order to run efficiently, it has to know the optimal quantities of outputs produced and of inputs purchased

Limitations of Microeconomics

1. **Monetary and fiscal policies:**

The role of monetary and fiscal policies in the determination of the economic variables cannot be analyzed completely without going beyond microeconomics

2. **Income determination:**

Microeconomics also does not tell us anything about how the income of a country (*i.e.*, national income) is determined.

3. **Business cycles**

Microeconomics does not help us in understanding as to why there are fluctuations occurs in business cycles and what the remedies are.

4. **Unemployment**

One of the main economic problems faced by an economy like India is the problem of unemployment. This, again, is one of the areas on which microeconomics does not shed much light.

Macroeconomics

Macroeconomics is the branch of economics that studies the behavior and performance of an economy as a whole. It focuses on the aggregate changes in the economy such as unemployment, growth rate, gross domestic product and inflation.

Importance of Macroeconomics

1. **Income and employment determination**

The determinations of national income and of total employment in the country are vital concerns of macroeconomics

2. **Price level:**

The determination of the general price level is discussed in Macroeconomic theories. Upward movement of the general price level is known as *inflation*. Thus, if we want to understand the process of inflation and find ways of controlling it, we must resort to the study of macroeconomics.

3. **Business cycles:** The economic booms and depressions in the levels of income and employment follow one another in a cyclical fashion. While income rises and employment expands during boom periods, they shrink during depressions. Since depressions bring business failures and unemployment in their wake, economists have sought remedies to depressions..

4. **Balance of payments:** The difference between the total inflow and the total outflow of foreign exchange is known as the balance of payments of a country. When this balance is negative (*i.e.*, outflow exceeds inflow), the country faces a lot of economic hardships. The causes and remedies of such balance of payments problems are discussed in macroeconomics.

5. **Government policies:** The effects of various government policies on the economic variables like national income or the general price level are also studied in macroeconomics.

6. **Interrelations between markets:** Probably, the most important contribution of macroeconomic theories is to show that different markets of the economic system (for example, the commodity market, the labour market, the bond market, the money market, etc.) are interrelated. Any disturbance in one of these markets affects all the others.

Differences between Microeconomics and Macroeconomics

Microeconomics	Macroeconomics
It is that branch of economics which deals with the economic decision-making of individual economic agents such as the producer, the consumer, etc.	It is that branch of economics which deals with aggregates and averages of the entire economy, e.g., aggregate output, national income, aggregate savings and investment, etc.
It takes into account small components of the whole economy.	It takes into consideration the economy of any country as a whole
It deals with the process of price determination in case of individual products and factors of production	It deals with general price-level in any economy
It is concerned with the optimization goals of individual consumers and producers (e.g., individual consumers are utility-maximisers, while individual producers are profitmaximisers.)	It is concerned with the optimization of the growth process of the entire economy.
Microeconomic theories help us in formulating appropriate policies for resource allocation at the firm level.	Macroeconomic theories help us in formulating appropriate policies for controlling inflation (i.e., rising price-level), unemployment, etc.
It takes into account the aggregates over homogeneous or similar products (e.g., the supply of steel in an economy.)	It takes into account the aggregates over heterogeneous or dissimilar products (say, the Gross Domestic Product of any country during any year

Role of Governments in managing the growth in Emerging/Developing Economies

I. Role of Government as a Regulatory and Growth promoting body

1. Monetary and Fiscal Policies

Modern economics is greatly influenced by Keynesian theories propounding the increased role of governments in regulating and stabilizing markets to ensure stable growth. Keynesian economics argues that private sector decisions sometimes lead to inefficient macroeconomic outcomes and therefore advocates active policy responses by the public sector, including monetary policy actions by the central bank and fiscal policy actions by the government to stabilize output over the business cycle. In the **Keynesian** economic model, the government has the very important job of smoothening out the business cycle bumps. They stress on the importance of measures like *government spending, tax breaks and hikes*, etc. for the best functioning of the economy.

Monetary Policy works by lowering the interest rates, which attractive private companies to invest in real assets which increase the aggregate demand indirectly, by raising the private sector expenditure. The opposite is also done to reduce the money supply in the economy so that inflationary tendencies are minimized and economy over-heating is prevented.

Fiscal Policy is more direct, but acts more slowly. It works by increasing demand for goods. Government does the borrowings to build roads, buildings etc, does the tax cutting, and tries to put more spending power in the hands of households.

Traditionally, the working of monetary policies can be summed up as: Central Bank lowers the interest rates as a result injecting liquidity in the financial system. Commercial banks try to lend the additional money

leading to the falling of interest rates further. This leads to the fact that risky business becomes profitable. Firms and houses, as a result, begin to buy more number of goods, thereby increasing employment.

The financial tools available in the hands of the Reserve Bank of India to control the monetary and fiscal policies are:

1. **Bank Rate:** It is the Discount Rate, rate which the central bank charges on loans and advances to commercial banks (Short term).
2. **Repo Rate:** It is the rate at which the RBI lends money to commercial banks, a short term for repurchase agreement. A reduction in the repo rate will help banks to get money at a cheaper rate. It is equivalent to the discount rate of US. (Long term).
3. **Reverse Repo Rate:** It is the rate at which Reserve Bank of India (RBI) borrows money from banks.
4. **Cash Reserve Ratio (CRR):** It indicates the amount of funds that the banks have to keep with RBI. If RBI decides to increase the percent of this, the available amount with the banks comes down. RBI is using this method to drain out the excessive money from the banks
5. **Statutory Liquidity Ratio (SLR):** It is the amount a commercial bank needs to maintain in the form of cash, or gold or govt. approved securities (Bonds) before providing credit to its customers. SLR rate is determined and maintained by the RBI in order to control the expansion of bank credit.

Thus, through the use of Monetary and Fiscal policies, the government can effectively control the money supply and hence the demand fluctuations of the market. This is essential as growth cannot be uncontrolled. An uncontrolled spiral of growth invariably is built on shaky foundations which are bound to cave in bringing everything crashing down. Until growth of the economy is backed by strong fundamentals, the speculative trading would remain strictly short term with the specter of a long term crash imminent. The sub-prime mortgage crisis caused by speculative trading in realty is an apt example of such a scenario. This long term thinking is what stabilizes growth and makes emerging economies an attractive destination since they have robust fundamentals.

2. Production in Core Sectors

The government steps in for production of goods or services in areas which either are economically unviable for private enterprise, natural monopolies requiring heavy capital investments or are restricted from private industry participation. Investment and growth of these sectors are in the best interests of the nation. However, some of these industries require very high capital investment and may achieve break-even after many years. This makes it an unviable project to be invested and pursued by private enterprise that is mostly answerable to shareholders for their business results. The role of governments here is to invest in the long term growth and development of the nation. Pandit Nehru, the first Prime Minister of India, called these as nation building activities which required state involvement for sharing the fruits of growth and prosperity with the entire society. The investment of government in such areas as infrastructure also provides a firm foundation for the future growth of the country. Infrastructure provides connectivity, new untapped markets and a chance to boost commerce in distant corners of the nation. Secondly, such capital investments provide employment opportunities as well as a boost to the country's GDP. This GDP boost also in turn shows an effect on the valuation of the private firms trading through the stock markets (see Figure 1). Government can also use this as a chance to collaborate with indigenous industries and increase their growth prospects. Thus, similar to the magic multiplier effect in banks, the government capital infusion and government controlled industries produce multiple positive effects on the economy thus producing robust growth prospects.

Sectorial spending patterns of governments reveal that the emphasis is towards promoting areas having lower growth as well as empowering disadvantaged sections of the nation to ensure the trickling down of prosperity in an equitable manner. Additionally, government spending even in developed countries is seen in such areas such as education, law and judiciary, healthcare, pension schemes and defense. This shows the central role of government in nation building for the future as well as in providing services for the betterment of the citizens.

3. Regulatory Responsibilities

The governments in emerging economies also shoulder regulatory responsibilities which enable it to control various macro-economic aspects of the economy. Through regulation, government can iron out the inconsistencies and inefficiencies of the market as well as shape the economic environment as per the shifting global and local trends. Regulations are essential in certain areas to ensure fair practices, preservation of rights and the empowerment of the citizens. Government also holds in its grips the tariff regulations which enable it to

preserve the indigenous small scale industries from global competition as well as prevent dumping of inferior goods on local markets. The presence of multinational companies and low cost markets abroad having incentive to dump such rejected goods in the market can skew the prices and hence create inefficiencies in the free market price discovery process as well. This kind of actions can severely affect indigenous industries and can result in monopolies emerging. The regulation of trade is another key focus area of policy since unrestricted trade can lead to local markets facing inflation. The working of the SEBI (Security Exchange Board of India), IRDA (Insurance Regulatory and Development Authority and other such regulatory bodies working in tandem with central and state government in India ensure that legal and ethical practices are followed and the general public is given a fair deal.

Overall, we can see the central role taken up by government in controlling and shaping the growth in emerging economies. While their involvement definitely has its benefits, there needs to be a balance since open market policies work best when they have minimal intrusions from external entities so that pure market forces determine the valuations and expectations of the consumers. Stringent government regulation and high tariff walls lead to protectionist tendencies which can choke private industries and mar the conducive environment for foreign investment.

4. Providing the economy with a legal structure:

This is the first and most important function a government should provide and without it an economy may collapse. This function requires the government to ensure property rights, provide enforcement of contracts, act as a referee and impose penalties for foul play. In order to perform this function, the government should furnish the economy with regulations, legislations, and means that ensure product quality, define ownership rights and enforce contracts. Our legal system, the FDA, The FED and SEC are examples of how the government fulfills this task.

5. Maintaining competition:

Since competition is the optimal and efficient market mechanism that encourages producers and resource suppliers to respond to price signals and consumer sovereignty, the government should fight monopoly power and non-competitive behavior. Thus, anti-monopoly laws (Sherman Act of 1890; Clayton Act of 1913) are designed to regulate business behavior and promote competition. It is important to mention here that Microsoft was found guilty of violating these laws in 2000.

6. Redistribution of income:

The government should strive to provide relief to the poor, dependent, handicapped, and unemployed. Welfare, Social Security and Medicare programs are examples of programs that support the poor, sick and elderly. These programs are built on transferring income from the high income groups to the limited income ones, through progressive taxes. Other means of redistribution might include price support programs such as the farm subsidy and low interest loans to students based on their family incomes.

7. Provision of public goods:

When the markets fail to provide the needed goods or the correct amounts of certain goods or services, the government fills in the vacuum. Examples of public goods that the markets do not provide are defense, security, police protection and the judicial system. Education and health services are examples of quasi-public (merit) goods that the market does not provide enough of. The government should provide the first, and help in the provision of the second.

8. Promoting growth and stability:

The government (assisted by the Fed) should promote macroeconomic growth and stability (increasing the GDP, fighting inflation and unemployment) through changes in its fiscal and monetary policies. The fiscal policies means the use of taxes and spending and it is managed by the executive branch represented mainly by the Treasury Department. The monetary policies signifies the use of interest rates, money supply, reserve requirements, etc. and it is managed by RBI.

9. Promoting Positive Externality:

One role for government is to implement economic policies that promote positive externalities. The existence of a positive externality means that marginal social benefit is greater than marginal private benefit

10. Providing the Legislative Framework

The government provides a clear and predictable legal framework for businesses. Regulations are administered in an open and transparent system, and applied fairly to all parties. The government makes it clear to businesses that it deals with them solely on the merits of their case. There is no favoured treatment for local companies or for government-linked companies.

11. Providing a Stable Environment for Businesses

Fiscal policy in Singapore is guided by the principle that it should support the private sector as the engine of growth and ensures that the macro-environment is stable. The Singapore government has been prudent and conservative in its budgetary policy. It has balanced its budget in nearly every year for the last 3 decades. Monetary policy is geared towards keeping inflation low and stable for long-term competitiveness and to ensure that savings are not debased. The government also sets clear and transparent ground-rules and ensures that markets are competitive, for example, by ensuring that imports are allowed to come in freely.

12. Investing in Infrastructure and Manpower

The government invests in infrastructure and manpower, areas in which the private sector is likely to under-invest. It ensures that the education and training system is geared towards the needs of the economy, with a strong emphasis on providing technical and professional manpower. Similarly, an efficient infrastructure lowers business costs and makes it attractive for investors to come to Singapore.

13. Facilitating Businesses

The government facilitates businesses, including foreign investors wishing to come to Singapore. This function is carried out mainly by promotional agencies like the Economic Development Board and the International Enterprise Singapore.

14. Maintaining competition: Since competition is the optimal and efficient market mechanism that encourages producers and resource suppliers to respond to price signals and consumer sovereignty, the government should fight monopoly power and non-competitive behavior. Thus, anti-monopoly laws (Sherman Act of 1890; Clayton Act of 1913) are designed to regulate business behavior and promote competition. It is important to mention here that Microsoft was found guilty of violating these laws in 2000.

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18. Providing Public Goods and Ensuring Positive Externalities

Public goods and externalities (defined below) provide the main theoretical justifications for government production. Public goods are those that can be enjoyed by an unlimited number of people without prejudice to one another and without exclusion of others. Some examples include lighthouses, national defenses, the legal system, and parks. Public goods are also indivisible; they must be produced in such large units that they cannot ordinarily be sold to individual buyers. Because of these characteristics, it is not feasible to charge for their consumption; therefore private suppliers lack the incentive to supply them.

Externalities, or spillovers, occur when some of the costs or benefits of an economic activity are passed on (or spill over) to parties other than the immediate seller or buyer. Some externalities have a beneficial effect on others and are referred to as positive externalities; those that have a detrimental effect are referred to as negative externalities. Pollution is an example of a negative externality, whereas investment in research and development, training, and education have positive spillovers and thus are positive externalities. The market, left on its own, will tend to produce too many goods and services that carry negative externalities (indicating a need to tax those externalities or impose restrictions on their emergence) and too few goods and services involving positive externalities (indicating a need to subsidize them or have them provided publicly)

Role of Market in economy

1. Price Discovery:

Economists have traditionally believed that there exists an invisible hand in a free market based economy, which bring a state of equilibrium in market and this in-turn result in price discovery. Advocates of the free market form of economy argue that price discovery is a natural process that ensures fair, accurate, and responsive pricing. The essential philosophy of price discovery is that firms maximize their profit and consumers maximize their benefits. The preconditions for price discovery to happen are the presence of a large number of buyers and sellers, absence of any buyer/seller having absolute power to influence the market and absence of any form of information asymmetry among the parties involved. This concept of price discovery is the most intrinsic feature of a free market based economy. The mechanism of price discovery ensures that there is an unbiased way to determine the intrinsic value of any good in the market. Through the presence of a large number of buyers and sellers, the continuous exchange of goods enables all parties involved to obtain the best value with minimal inaccuracies. This technically ensures that skewed pricing schemes or incorrect valuation is not followed and every product has a constantly varying price affected by its quality and the nature of its demand. This dynamicity brings out the competitive forces in the market and ensures that innovation is always at the forefront of any industry policy.

2. Foreign Investment Opportunities:

A major attraction of following free market policies is its ability to attract foreign investors into funding growth and development projects in the country. Foreign investors and angel investors generally look for high growth opportunities to invest their money in as seen by the increasing FII and FDI inflows into India. With the maturity of developed markets and flat growth seen in such economies, these developed countries divert large sums of money into such emerging investment locations offering higher growth rates. The only caveat is the added risk introduced into their investment profile. For this reason, such investment vehicles generally prefer politically stable and economically progressive countries which have transparent policies and lower regulations on investments. Such foreign investments are crucial for augmenting the government spending on key sectors like education, healthcare, infrastructure, natural resources.

An over dependence on these inflows would leave a country in a sensitive position where may lead to huge outflows of investment. The onus is firmly on these emerging countries to establish and maintain a stable environment conducive for investment and presenting a balanced picture of sustainable growth. There are many instances of economies encountering pricing bubbles and speculative trading on the back of erratic foreign investments. So not only is it essential that investment is attracted, but regulations must also be made to limit these inflows to ensure sustainable growth. The inflationary tendencies of the economy as well as the speculative valuation of stocks on the back of FII and FDI inflows are well documented and hence need extra caution to be exercised.

3. Growth in GDP:

Gross Domestic Product or GDP is a primary measure of the vitality of an economy as it conveys the dollar value of all the goods and services produced by that country over a specified period of time. As can be clearly seen, a robust and dynamic market can spur growth in the investment in private industries which in turn helps fund their growth plans. The highly capital intensive nature of heavy industries and core sectors requires heavy investments and this is where markets come into the picture. Through the stock markets as well as foreign investment vehicles, industries gain the capital required to pursue high growth strategies and scale up their businesses. This in turn results in increased production of goods and services and hence a robust GDP growth.

4. Rise of the Consumer

The market structure promotes transparency of pricing, infusion of cash for growth initiatives and provides competitively priced technologically superior products in the hands of the consumers. In addition to this, the growth impetus provided by market economies results in huge employment opportunities resulting in increased per capita income. This increased income thus boosts consumer spending and helps in developing high growth markets internally. The presence of large number of competitive firms in every sphere helps shift the power into the hands of the consumer and empowers him to make informed decisions. Consumer spending accounts for nearly 60% of the total GDP of United States of America and international trends show the importance of a strong local consumer demand to ensure robust growth patterns.

As we have seen above, there are numerous benefits of an open economy which triggers and sustains high growth in an economy. However, an area of concern is the formation of asset and valuation bubbles due to large inflows of investments. Since emerging economies are currently riding high on consumer sentiments, FIIs and FDIs are reaching unprecedented levels. This is primarily backed by strong short term profit making interests. An uncontrolled free market structure can result in valuation bubbles which are basically high valuations built on weak fundamentals. Preventive measures for such scenarios require a strong presence of regulatory authorities and balancing policy shifts to ensure that growth is balanced and sustainable

Externality

Definition: *An externality is an effect of a purchase or use decision by one set of parties on others who did not have a choice and whose interests were not taken into account.*

PRIVATE AND SOCIAL COSTS

Externalities create a **divergence** between the **private** and **social costs** of production.

Social cost includes all the costs of production of the output of a particular good or service. We include the third party (external) costs arising, for example, from pollution of the atmosphere.

SOCIAL COST = PRIVATE COST + EXTERNALITY

For example: - a chemical factory emits wastage as a by-product into nearby rivers and into the atmosphere. This creates negative externalities which impose higher **social costs** on other firms and consumers. e.g. clean up costs and health costs.

Another example of higher social costs comes from the problems caused by traffic congestion in towns, cities and on major roads and motor ways.

It is important to note though that the manufacture, purchase and use of private cars can also generate **external benefits** to society. This why **cost-benefit analysis** can be useful in measuring and putting some monetary value on both the social costs and benefits of production

Types of externality

1. Positive Externality in Production.

A farmer grows apple trees. An external benefit is that he provides nectar for a nearby bee keeper who gains increased honey as a result of the farmers orchard.

2. Negative Externality in Production

Making furniture by cutting down rainforests in the Amazon leads to negative externalities to other people. Firstly it harms the indigenous people of the Amazon rainforest. It also leads to higher global warming as there are less trees to absorb carbon dioxide.

3. Positive Externality in Consumption.

If you take a three year training course in IT. You gain skills but also other people in the economy can benefit from your knowledge.

4. Negative Externality in Consumption:

If you smoke in a crowded room, other people have to breathe in your smoke. This is unpleasant for them and can leave them exposed to health problems associated with smoking.

Positive consumption externalities

A positive externality is a benefit that is enjoyed by a third-party as a result of an economic transaction. Third-parties include any individual, organization, property owner, or resource that is indirectly affected. While individuals who benefit from positive externalities without paying are considered to be free-riders, it may be in the interests of society to encourage free-riders to consume goods which generate substantial external benefits.

Most merit goods generate positive consumption externalities, which beneficiaries do not pay for. For example, with healthcare, private treatment for contagious diseases provides a considerable benefit to others, for which they do not pay. Similarly, with education, the skills acquired and knowledge learnt at university can benefit the wider community in many ways.

Unlike the case of negative externalities, which should be discouraged to achieve a socially efficient allocation of scarce resources, positive externalities should be encouraged.

There are plenty of examples of economic activities that can generate positive externalities:

1. **Industrial training by firms:** This can reduce the costs faced by other firms and has important effects on labour productivity. A faster growth of productivity allows more output to be produced from a given amount of resources and helps improve living standards throughout the economy. See the revision notes on the **production possibility frontier**
2. **Research into new technologies** which can then be disseminated for use by other producers. These technology spill-over effects help to reduce the costs of other producers and cost savings might be passed onto consumers through lower prices
3. **Education:** A well educated labour force can increase efficiency and produce other important social benefits. Increasingly policy-makers are coming to realise the increased returns that might be exploited from investment in **human capital** at all ages.
4. **Health provision:** Improved health provision and health care reduces absenteeism and creates a better quality of life and higher living standards.
5. **Employment creation** by new small firm
6. **Flood protection system and spending on improved fire protection in schools and public arenas**
7. **Arts and sporting participation and enjoyment derived from historic buildings**

Policies to promote positive externalities

One role for government is to implement economic policies that promote positive externalities. There are two general approaches to promoting positive externalities; to increase the supply of, and demand for, goods, services and resources that generate external benefits.

- **Increasing supply**

Government grants and subsidies to producers of goods and services that generate external benefits will reduce costs of production, and encourage more supply. This is a common remedy to encourage the supply of merit goods such as healthcare, education, and social housing. Such merit goods can be funded out of central and local government taxation. Public goods, such as roads, bridges and airports, also generate considerable positive externalities, and can be built, maintained and fully, or part, funded out of tax revenue.

- **Increasing demand**

Demand for goods, which generate positive externalities, can be encouraged by reducing the price paid by consumers. For example, subsidizing the tuition fees of university students will encourage more young people to go to university, which will generate a positive externality for future generations.

The ultimate encouragement to consume is to make the good completely free at the point of consumption, such as with freely available hospital treatment for contagious diseases.

Government can also provide free information to consumers, to compensate for the information failure that discourages consumption. If individuals are fully informed about the benefits of consuming goods and services that generate external benefits, they may develop a better understanding of the product and demand more of it. For example, public information broadcasts, such as AIDS awareness programmes, can reduce ignorance, and encourage the use of condoms.

An additional option is to compel individuals to consume the good or service that generates the external benefit. For example, if suspected of having a contagious disease, an individual may be forced into hospital to receive treatment, even against their will. In terms of education, attendance at school up until the age of 16 is compulsory, and parents may be fined for encouraging their children to truant.

Negative Externality

There are two types of negative externalities:

1) **Negative Production Externality** - when a firm's production reduces the well-being of others who are not compensated by the firm.

Examples:

- The production of smoke from factories may create clean-up costs to reduce air pollution by nearby residents.
- The building of a dam that prevents the fish from swimming upstream, thus destroying the fishing industry in towns upstream. Note that if the fishermen are compensated by the dam builders for the full value of their loss, then no negative externality exists. This and other examples can be found in the article "[Environmental Economics: Pollution](#)"

2) **Negative consumption externality** - when an individual's consumption reduces the well-being of others who are not compensated by the individual.

Example:

- The consumption of cigarettes in a restaurant that allows smoking decreases the enjoyment of a non-smoker who is consuming his/her meal at the same restaurant.

Remedies or solutions to Negative externality

I. Market Based Solutions:

Market-based solutions try to manipulate market forces to reduce the externality, by exploiting the price mechanism. One such market-based solution is to extend property rights so that third parties can negotiate with those individuals or organizations that cause the externality. As long as one party can establish a property right, there will be a bargaining process leading to an agreement in which externalities are taken into account.

If property rights cannot be established, such as with the air, sea, or roads, then the only two options are:

1. We learn to live with externalities, or:
2. Government intervenes on our behalf through taxes or direct controls and regulations, such as:
 - Taxing polluters, such as carbon taxes, or taxes on plastic bags.
 - Subsidizing households or firms to be non-polluters, such as giving grants for home insulation improvements.
 - Selling permits to pollute, which may become traded by the polluters.
 - Forcing polluters to pay compensation to those who suffer, such as making noise polluting airports pay for double-glazing.

- Road pricing schemes, such as the Electronic Road Pricing (ERP) system in Singapore, which is a pay-as-you-go, card-based, road-pricing scheme.
- Providing more information to consumers and producers, such as requiring that tickets to travel on polluting forms of transport, especially air travel, should contain information on how much CO₂ pollution will be created from each journey.

II. Negative consumption externalities

When certain goods are consumed, such as *demerit goods*, negative effects can arise on third parties.

For example, if individuals consume alcohol, get intoxicated and do harm to the property of innocent third parties, a negative consumption externality has arisen. This reduces the MSB by the extent of the negative effect on others, so that the socially efficient consumption of alcohol is less than the free market level of consumption.

Another important example of a negative consumption externality is that of road congestion. As individuals 'consume' road-space they reduce available road-space and deny this space to others.

There are several remedies for negative consumption externalities, including imposing *indirect taxes*, and setting *minimum prices*, imposing fines for over-consumption, controlling supply through a licensing system.

Promoting Positive Externalities and Reducing Negative Externalities

- Governments have several methods to reduce the effects of negative externalities and to promote positive externalities.
- The quantity of goods with negative externalities is greater than what the market equilibrium would be if the cost of the negative externality was factored into the price of the product. On the other hand, the quantity of goods that have positive externalities is less than what is socially desirable, since the people who enjoy the benefits of the product but who do not participate in the market do not affect the market quantity.
- The government can remedy these situations by taxing products with negative externalities and subsidizing products with positive externalities.
- Government intervention can generally be divided into 2 types of actions:
 - **command-and-control policies** that regulate actions directly and
 - **market-based policies** that would provide incentives so that the self-interest of the market participants would achieve the socially optimized solution.
- **Direct controls** are a type of command-and-control policy that prohibits specific activities that create negative externalities or that require that the negative externality be limited to a certain level, such as limiting emissions in smokestacks or tailpipes, or limiting toxic wastes, with specific procedures to clean it up.
- The government can promote positive externalities by paying **subsidies** to either buyers or producers, which is a type of market-based policy. Subsidies to buyers would lower the cost of the product, which would increase demand. Subsidies to producers would lower their cost of production, thereby increasing supply. The government may also decide that the cost of an externality is great enough to make it a **public good**, where the government pays outright for its production, such as vaccinations against contagious diseases, like smallpox or polio.
- Most government subsidies consists of **tax breaks** for either the buyers or the suppliers. Education, for instance, has many positive externalities, and the government subsidizes it by giving tax breaks for people who save for college.
- Because technology has large spillover benefits, the government sometimes forms an **industrial policy** that promotes specific technologies that would have the greatest benefit to society. However, industrial policies are often criticized because they require that the government pick winners and losers and, as often happens in governments where the legislators are more interested in money than in the well-being of their country, well-financed lobbyists often control how the money is allocated.

- Another common market-based policy to reduce negative externalities is by assessing a **corrective tax**, which is a tax that **internalizes the externality** by incorporating it as a cost of production. Corrective taxes are also known as **Pigovian taxes**, named after the economist Arthur Pigou, who was an early advocate of their use.
- The primary advantage of corrective taxes over regulation is that companies have an incentive only to satisfy the regulation, whereas corrective taxes will incentivize companies to continually reduce their negative externalities to lower their costs.
- One of the best examples to show the superiority of a market-based policy over that of a command-and-control policy is how the government has attempted to regulate the fuel economy of motor vehicles. A better solution is simply to increase gasoline taxes, which would motivate many people and businesses to reduce their consumption of gasoline, since it would cost them more. People would find many creative solutions that would otherwise not be sought if the government simply stipulated how things should be done. Furthermore, people would continually strive to reduce their gasoline expense, whereas the auto manufacturers would just satisfy the law. Gasoline taxes would also reduce congestion, accidents, and pollution by motivating people to drive slower and to drive less — fuel economy regulations would have no such effect.
- Government intervenes on our behalf through taxes or direct controls and regulations, such as:
 - Taxing polluters, such as carbon taxes, or taxes on plastic bags.
 - Subsidising households or firms to be non-polluters, such as giving grants for home insulation improvements.
 - Selling permits to pollute, which may become traded by the polluters.
 - Forcing polluters to pay compensation to those who suffer, such as making noise polluting airports pay for double-glazing.
 - Road pricing schemes, such as the Electronic Road Pricing (ERP) system in Singapore, which is a pay-as-you-go, card-based, road-pricing scheme.
 - Providing more information to consumers and producers, such as requiring that tickets to travel on polluting forms of transport, especially air travel, should contain information on how much CO₂ pollution will be created from each journey.

UNIT II

CONSUMER AND PRODUCER BEHAVIOUR

Market – Demand and Supply – Determinants – Market equilibrium – elasticity of demand and supply – consumer behaviour – consumer equilibrium – Approaches to consumer behaviour – Production – Short-run and long-run Production Function – Returns to scale – economies Vs diseconomies of scale – Analysis of cost – Short-run and long-run cost function – Relation between Production and cost function

Introduction to Market

When most people think of a market, they think of a physical place, like their neighborhood supermarket, complete with shoppers and shelves stocked with a wide range of goods. In economics, however, a market need

not be a physical location. Where you have buyers and sellers of a particular product or service, you have a market.

A market is any place where the sellers of a particular good or service can meet with the buyers of that goods and service where there is a potential for a transaction to take place. The buyers must have something they can offer in exchange for there to be a potential transaction.

In economics, a market is a group of buyers and sellers of a specific good or service. A market usually does not refer to a physical location for the buying and selling of products. "Harper Collins Dictionary of Economics" points out that economists use the word "market" to describe a mechanism of exchange between buyers and sellers of a good or service.

In a market, sellers offer their goods and services, for which they set a price, often with an eye towards offering lower prices or better products and services than their competitors. Buyers, meanwhile, vote with their dollars, purchasing the products they want from the sellers that offer the best product in terms of price and quality. If a seller raises prices without offering a significantly better product or service, consumers are free to take their business to a competing firm.

DEMAND

In Economics, use of the word 'demand' is made to show the relationship between the prices of a commodity and the amounts of the commodity which consumers want to purchase at those price.

Definition of Demand:

“Demand is defines as the want, need or desire which is backed by willingness and ability to buy a particular commodity in a given period of time.”

Bober defines, “By demand we mean the various quantities of given commodity or service which consumers would buy in one market in a given period of time at various prices, or at various incomes, or at various prices of related goods.”

Demand for product implies:

- a) desires to acquire it,
- b) willingness to pay for it, and
- c) Ability to pay for it.

All three must be checked to identify and establish demand. For example : A poor man's desires to stay in a five-star hotel room and his willingness to pay rent for that room is not 'demand', because he lacks the necessary purchasing power; so it is merely his wishful thinking. Similarly, a miser's desire for and his ability to pay for a car is not 'demand', because he does not have the necessary willingness to pay for a car. One may also come across a well-established person who processes both the willingness and the ability to pay for higher education. But he has really no desire to have it, he pays the fees for a regular cause, and eventually does not attend his classes. Thus, in an economics sense, he does not have a 'demand' for higher education degree/diploma.

It should also be noted that the demand for a product—a commodity or a service—has no meaning unless it is stated with specific reference to the time, its price, price of is related goods, consumers' income and tastes etc. This is because demand, as is used in Economics, varies with fluctuations in these factors.

To say that demand for an Atlas cycle in India is 60,000 is not meaningful unless it is stated in terms of the year, say 1983 when an Atlas cycle's price was around Rs. 800, competing cycle's prices were around the same, a scooter's prices was around Rs. 5,000. In 1984, the demand for an Atlas cycle could be different if any of the above factors happened to be different. For example, instead of domestic (Indian), market, one may be interested in foreign (abroad) market as well. Naturally the demand estimate will be different. Furthermore, it should be noted that a commodity is defined with reference to its particular quality/brand; if its quality/brand changes, it can be deemed as another commodity.

To sum up, we can say that the demand for a product is the desire for that product backed by willingness as well as ability to pay for it. It is always defined with reference to a particular time, place, price and given values of other variables on which it depends.

Characteristics of Demand:

There are thus *three main characteristics of demand* in economics.

(i) Willingness and ability to pay. Demand is the amount of a commodity for which a consumer has the willingness and also the ability to buy.

(ii) Demand is always at a price. If we talk of demand without reference to price, it will be meaningless. The consumer must know both the price and the commodity. He will then be able to tell the quantity demanded by him.

(iii) Demand is always per unit of time. The time may be a day, a week, a month, or a year.

Determinants of Demand:

The knowledge of the **determinants of market demand** for a product or service and the nature of relationship between the **demand and its determinants** proves very helpful in analyzing and estimating demand for the product. It may be noted at the very outset that a host of **factors determines the demand** for a product or service. In general, following **factors determine market demand** for a product or service:

1. Price of the product
2. Price of the related goods-substitutes, complements and supplements
3. Level of consumers income
4. Consumers taste and preference
5. Advertisement of the product
6. Consumers' expectations about future price and supply position
7. Demonstration effect or 'bend-wagon effect'
8. Consumer-credit facility
9. Population of the country
10. Distribution pattern of national income.

These factors also include factors such as off-season discounts and gifts on purchase of a good, level of taxation and general social and political environment of the country. However, all these factors are not equally important. Besides, some of them are not quantifiable. For example, consumer's preferences, utility, demonstration effect and expectations, are difficult to measure. However, both quantifiable and non-quantifiable **determinants of demand** for a product will be discussed.

1. Price of the Product

The price of a product is one of the most important **determinants of demand** in the long run and the only determinant in the short run. The price and quantity demanded are inversely related to each other. The law of demand states that the quantity demanded of a good or a product, which its consumers would like to buy per unit of time, increases when its price falls, and decreases when its price increases, provided the other factors remain' same. The assumption 'other factors remaining same' implies that income of the consumers, prices of the substitutes and complementary goods, consumer's taste and preference and number of consumers remain unchanged. The price-demand relationship assumes a much greater significance in the oligopolistic market in which outcome of price war between a firm and its rivals determines the level of success of the firm. The firms have to be fully aware of price elasticity of demand for their own products and that of rival firm's goods.

2. Price of the Related Goods or Products

The demand for a good is also affected by the change in the price of its related goods. The related goods may be the substitutes or complementary goods.

- **Substitutes:** Two goods are said to be substitutes of each other if a change in price of one good affects the demand for the other in the same direction. For instance goods X and Y are considered as substitutes for each other if a rise in the price of X increase demand for Y, and vice versa. Tea and coffee, hamburgers and hot-dog, alcohol and drugs are some examples of substitutes in case of consumer goods by definition, the relation between demand for a product and price of its substitute is of positive nature. When, price of the substitute of a product (tea) falls (or increase), the demand for the product falls (or increases).
- **Complementary Goods:** A good is said to be a complement for another when it complements the use of the other or when the two goods are used together in such a way that their demand changes (increases or decreases) simultaneously. For example, petrol is a complement to car and scooter, butter and jam to bread, milk and sugar to tea and coffee, mattress to cot, etc. Two goods are termed as complementary to each other. If an increase in the price of one causes a decrease in demand for the other. By definition, there is an inverse relation between the demand for a good and the price of its complement. For instance, an increase in the price of petrol causes a decrease in the demand for car and other petrol-run vehicles and vice versa while other thing's remaining constant.

3. Consumers Income

Income is the basic determinant of market demand since it determines the purchasing power of a consumer. Therefore, people with higher current disposable income spend a larger amount on goods and services than those with lower income. Income-demand relationship is of more varied nature than that between demand and its other determinants. While other determinants of demand, e.g., product's own price and the price of its substitutes, are more significant in the short-run, income as a determinant of demand is equally important in both short run and long run. Before proceeding further to discuss income-demand relationships, it will be useful to note that consumer goods of different nature have different kinds of relationship with consumers having different levels of income. Hence, the managers need to be fully aware of the kinds of goods they are dealing with and their relationship with the income of consumers, particularly about the assessment of both existing and prospective demand for a product.

For the purpose of income-demand analysis, goods and services maybe grouped under four broad categories, which are: (a) essential consumer goods, (b) inferior goods, (c) normal goods, and (d) prestige or luxury goods. To understand all these terms, it is essential to understand the relationship between income and different kinds of goods.

- I. **Essential Consumer Goods (ECG):** The goods and services of this category are called 'basic needs' and are consumed by all persons of a society such as food-grains, salt, vegetable oils, matches, cooking fuel, a minimum clothing and housing. Quantity demanded for these goods increases with increase in consumer's income but only up to certain limit, even though the total expenditure may increase in accordance with the quality of goods consumed, other factors remaining the same. Consumer's demand for essential goods increases only until a particular income level. It tends to saturate beyond this level of income.
- II. **Inferior goods:** Inferior goods are those goods whose demand decreases with the increase in consumer's income. For example millet is inferior to wheat and rice; coarse, textiles are inferior to refined ones, kerosene is inferior to cooking gas and travelling by bus is inferior to travelling by taxi. The relation between income and demand for an inferior good is under the assumption that other determinants of demand remain the same demand for such goods rises only up to a certain level of income, and declines as income increases beyond this level.
- III. **Normal goods:** Normal goods are those goods whose demand increases with increase in the consumer income. For example, clothing's household furniture and automobiles. Demand for such goods increases with

the increases in consumer income but at different rates at different levels of income. Demand for normal goods increases rapidly with the increase in the consumer's income but slows down with further increase in income. Up to certain level of income the relation between income and demand for all type of goods is similar. The difference is of only degree. Therefore, it is important to view the income-demand relations in the light of the nature of product and the level of consumer's income.

V. **Prestige and luxury goods:** Prestige goods are those goods, which are consumed mostly by rich section of the society, e.g., precious stones, antiques, rare paintings, luxury cars and such other items of show-off. Whereas luxury goods include jewellery, costly brands of cosmetics, TV sets, refrigerators, electrical gadgets and cars. Demand for such goods arises beyond a certain level of consumer's income, i.e., consumption enters the area of luxury goods. Producers of such goods, while assessing the demand for their goods, should consider the income changes in the richer section of the society and not only the per capita income.

Consumer's Taste and Preference

Consumer's taste and preference play an important role in determining demand for a product. Taste and preference depend, generally, on the changing life-style, social customs, religious values attached to a good habit of the people. Change in these factors changes consumer's taste and preferences. As a result, consumers reduce or give up the consumption of some goods and add new ones to their consumption pattern. For example, following the change in fashion, people switch their consumption pattern from cheaper, old-fashioned goods to costlier 'mod' goods, as long as price differentials are proportionate with their preferences. Consumers are prepared to pay higher prices for 'mod goods' even if their virtual utility is the same as that of old-fashioned goods. The manufacturers of goods and services that are subject to frequent change in fashion and style, can take advantage of this situation in two ways:

1. They can make quick profits by designing new models of their goods and popularizing them through advertisement, and
2. They can plan production in a better way and can even avoid over-production if they keep an eye on the changing fashions

Advertisement Expenditure

Advertisement costs are incurred with the objective of increasing the demand for the goods. This is done in the following ways:

- By informing the potential consumers about the availability of the goods.
- By showing its superiority to the rival goods.
- By influencing consumers choice against the rival goods, and
- By setting fashions and changing tastes.

The impact of such effects shifts the demand curve upward to the right. In other words, when other factors' remain same, the expenditure on advertisement increases the volume of sales to the same extent.

The relationship between demand and advertisement cost is based on the following assumptions:

- Consumers are fairly sensitive and responsive to various modes of advertisement.
- The rival firms do not react to the advertisements made by a firm.
- The level of demand has not already reached the saturation point. Advertisement beyond this point will make only marginal impact on demand.
- Per unit cost of advertisement added to the price does not make the price prohibitive for consumers, as compared particularly to the price of substitutes.
- Others determinants of demand, e.g., income and tastes, etc., are not operating in the reverse direction.

In the absence of these conditions, the advertisement effect on sales may be unpredictable.

6. Consumers Expectations

Consumers' expectations regarding the future prices, income and supply position of goods play an important role in determining the demand for goods and services in the short run. If consumers expect a rise in the price of a storable good, they would buy more of it at its current price with a view to avoiding the possibility of price rise future. On the contrary, if consumers expect a fall in the price of certain goods, they postpone their purchase with a view to take advantage of lower prices in future, mainly in case of non-essential goods. This behavior of consumers reduces the current demand for the goods whose prices are expected to decrease in future. Similarly, an expected increase in income increases the demand for a product. For example, announcement of dearness allowance, bonus and revision of pay scale induces increase in current purchases. Besides, if scarcity of certain goods is expected by the consumers on account of reported fall in future production, strikes on a large scale and diversion of civil supplies towards the military use causes the current demand for such goods to increase more if their prices show an upward trend. Consumer demand more for future consumption and profiteers demand more to make money out of expected scarcity.

7. Demonstration Effect

When new goods or new models of existing ones appear in the market, rich people buy them first. For instance, when a new model of car appears in the market, rich people would mostly be the first buyer, LED TV sets and Blu-Ray Drives were first seen in the houses of the rich families some people buy new goods or new models of goods because they have genuine need for them. Some others do so because they want to exhibit their affluence. But once new goods come in fashion, many households buy them not because they have a genuine need for them but because their neighbors have bought the same goods. The purchase made by the latter category of the buyers are made out of such feelings as jealousy, competition, equality in the peer group, social inferiority and the desire to raise their social status. Purchases made on account of these factors are the result of what economists call 'demonstration effect' or the 'Band-wagon-effect'. These effects have a positive effect on demand. On the contrary, when goods become the thing of common use, some people, mostly rich, decrease or give up the consumption of such goods. This is known as 'Snob Effect'. It has a negative effect on the demand for the related goods.

8. Consumer-Credit Facility

Availability of credit to the consumers from the sellers, banks, relations and friends encourages the consumers to buy more than what they would buy in the absence of credit availability. Therefore, the consumers who can borrow more can consume more than those who cannot borrow. Credit facility affects mostly the demand for durable goods, particularly those, which require bulk payment at the time of purchase.

9. Population of the Country

The total domestic demand for a good of mass consumption depends also on the size of the population. Therefore, larger the population larger will be the demand for a product, when price, per-capita income, taste and preference are given. With an increase or decrease in the size of population, employment percentage remaining the same, demand for the product will either increase or decrease.

10. Distribution of National Income

The level of national income is the basic determinant of the market demand for a good. Apart from this, the distribution pattern of the national income is also an important **determinant for demand of a good**. If national income is evenly distributed, market demand for normal goods will be the largest. If national income is unevenly distributed, i.e., if majority of population belongs to the lower income groups, market demand for essential goods, including inferior ones, will be the largest whereas the demand for other kinds of goods will be relatively less.

TYPES OF DEMAND

The different types of demand are

i) Direct and Derived Demands

Direct demand refers to demand for goods meant for final consumption; it is the demand for consumers' goods like food items, readymade garments and houses. By contrast, derived demand refers to demand for goods which are needed for further production; it is the demand for producers' goods like industrial raw materials, machine tools and equipment.

Thus the demand for an input or what is called a factor of production is a derived demand; its demand depends on the demand for output where the input enters. In fact, the quantity of demand for the final output as well as the degree of substitutability/complementary between inputs would determine the derived demand for a given input.

For example, the demand for gas in a fertilizer plant depends on the amount of fertilizer to be produced and substitutability between gas and coal as the basis for fertilizer production. However, the direct demand for a product is not contingent upon the demand for other products.

ii) Domestic and Industrial Demands

The example of the refrigerator can be restated to distinguish between the demand for domestic consumption and the demand for industrial use. In case of certain industrial raw materials which are also used for domestic purpose, this distinction is very meaningful.

For example, coal has both domestic and industrial demand, and the distinction is important from the standpoint of pricing and distribution of coal.

iii) Autonomous and Induced Demand

When the demand for a product is tied to the purchase of some parent product, its demand is called induced or derived.

For example, the demand for cement is induced by (derived from) the demand for housing. As stated above, the demand for all producers' goods is derived or induced. In addition, even in the realm of consumers' goods, we may think of induced demand. Consider the complementary items like tea and sugar, bread and butter etc. The demand for butter (sugar) may be induced by the purchase of bread (tea). Autonomous demand, on the other hand, is not derived or induced. Unless a product is totally independent of the use of other products, it is difficult to talk about autonomous demand. In the present world of dependence, there is hardly any autonomous demand. Nobody today consumes just a single commodity; everybody consumes a bundle of commodities. Even then, all direct demand may be loosely called autonomous.

iv) Perishable and Durable Goods' Demands

Both consumers' goods and producers' goods are further classified into perishable/non-durable/single-use goods and durable/non-perishable/repeated-use goods. The former refers to final output like bread or raw material like cement which can be used only once. The latter refers to items like shirt, car or a machine which can be used repeatedly. In other words, we can classify goods into several categories: single-use consumer goods, single-use producer goods, durable-use consumer goods and durable-use producer's goods. This distinction is useful because durable products present more complicated problems of demand analysis than perishable products. Non-durable items are meant for meeting immediate (current) demand, but durable items are designed to meet current as well as future demand as they are used over a period of time. So, when durable items are purchased, they are considered to be an addition to stock of assets or wealth. Because of continuous use, such assets like furniture or washing machine, suffer depreciation and thus call for replacement. Thus durable goods demand has two varieties – replacement of old products and expansion of total stock. Such demands fluctuate with business conditions, speculation and price expectations. Real wealth effect influences demand for consumer durables.

v) New and Replacement Demands

This distinction follows readily from the previous one. If the purchase or acquisition of an item is meant as an addition to stock, it is a new demand. If the purchase of an item is meant for maintaining the old stock of capital/asset, it is replacement demand. Such replacement expenditure is to overcome depreciation in the existing stock.

Producers' goods like machines. The demand for spare parts of a machine is replacement demand, but the demand for the latest model of a particular machine (say, the latest generation computer) is anew demand. In course of preventive maintenance and breakdown maintenance, the engineer and his crew often express their replacement demand, but when a new process or a new technique or anew product is to be introduced, there is always a new demand.

You may now argue that replacement demand is induced by the quantity and quality of the existing stock, whereas the new demand is of an autonomous type. However, such a distinction is more of degree than of kind. For example, when demonstration effect operates, a new demand may also be an induced demand. You may buy a new VCR, because your neighbor has recently bought one. Yours is a new purchase, yet it is induced by your neighbor's demonstration.

vi) Final and Intermediate Demands

This distinction is again based on the type of goods- final or intermediate. The demand for semi-finished products, industrial raw materials and similar intermediate goods are all derived demands, i.e., induced by the demand for final goods. In the context of input-output models, such distinction is often employed.

vii) Individual and Market Demands

This distinction is often employed by the economist to study the size of the buyers' demand, individual as well as collective. A market is visited by different consumers, consumer differences depending on factors like income, age, sex etc. They all react differently to the prevailing market price of a commodity. For example, when the price is very high, a low-income buyer may not buy anything, though a high income buyer may buy something. In such a case, we may distinguish between the demand of an individual buyer and that of the market which is the market which is the aggregate of individuals. You may note that both individual and market demand schedules (and hence curves, when plotted) obey the law of demand. But the purchasing capacity varies between individuals. For example, A is a high income consumer, B is a middle-income consumer and C is in the low-income group. This information is useful for personalized service or target-group-planning as a part of sales strategy formulation.

viii) Total Market and Segmented Market Demands

This distinction is made mostly on the same lines as above. Different individual buyers together may represent a given market segment; and several market segments together may represent the total market. For example, the Hindustan Machine Tools may compute the demand for its watches in the home and foreign markets separately; and then aggregate them together to estimate the total market demand for its HMT watches. This distinction takes care of different patterns of buying behavior and consumers' preferences in different segments of the market. Such market segments may be defined in terms of criteria like location, age, sex, income, nationality, and so on.

x) Company and Industry Demands

An industry is the aggregate of firms (companies). Thus the Company's demand is similar to an individual demand, whereas the industry's demand is similar to aggregated total demand. You may examine this distinction from the standpoint of both output and input.

For example, you may think of the demand for cement produced by the Cement Corporation of India (i.e., a company's demand), or the demand for cement produced by all cement manufacturing units including the CCI

(i.e., an industry's demand). Similarly, there may be demand for engineers by a single firm or demand for engineers by the industry as a whole, which is an example of demand for an input. You can appreciate that the determinants of a company's demand may not always be the same as those of an industry's. The inter-firm differences with regard to technology, product quality, financial position, market (demand) share, market leadership and competitiveness- all these are possible explanatory factors. In fact, a clear understanding of the relation between company and industry demands necessitates an understanding of different market structures.

Demand Function and Demand Curve

Demand function is a comprehensive formulation which specifies the factors that influence the demand for the product. What can be those factors which affect the demand?

For example,

$$D_x = D (P_x, P_y, P_z, B, W, A, E, T, U)$$

Here D_x , stands for demand for item x (say, a car)

P_x , its own price (of the car)

P_y , the price of its substitutes (other brands/models)

P_z , the price of its complements (like petrol)

B, the income (budget) of the purchaser (user/consumer)

W, the wealth of the purchaser

A, the advertisement for the product (car)

E, the price expectation of the user

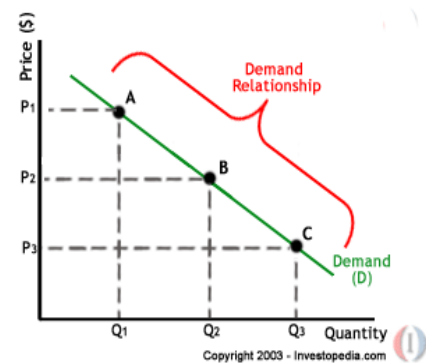
T, taste or preferences of user

U, all other factors.

Law of Demand:

What Does Law Of Demand Mean?

A microeconomic law that states that, all other factors being equal, as the price of a good or service increases, consumer demand for the good or service will decrease and vice versa.



This law summarizes the effect price changes have on consumer behavior. For example, a consumer will purchase more pizzas if the price of pizza falls. The opposite is true if the price of pizza increases.

Assumptions of Law of Demand:

- (i) There should not be any change in the tastes of the consumers for goods (T).
- (ii) The purchasing power of the typical consumer must remain constant (M).
- (iii) The price of all other commodities should not vary (P^0).

Example of Law of Demand:

If there is a change, in the above and other assumptions, the law may not hold true. For example, according to the law of demand, other things being equal quantity demanded increases with a fall in price and

diminishes with rise to price. Now let us suppose that price of tea comes down from R40 per pound to R20 per pound. The demand for tea may not increase, because there has taken place a change in the taste of consumers or the price of coffee has fallen down as compared to tea or the purchasing power of the consumers has decreased, etc., etc. From this we find that demand responds to price inversely only, if other thing remains constant. Otherwise, the chances are that, the quantity demanded may not increase with a fall in price or vice-versa. Demand, thus, is a negative relationship between price and quantity.

Limitations/Exceptions of Law of Demand:

Though as a rule when the prices of normal goods rise, the demand them decreases but there may be a few cases where the law may not operate.

(i) **Prestige goods:** There are certain commodities like diamond, sports cars etc., which are purchased as a mark of distinction in society. If the price of these goods rise, the demand for them may increase instead of falling.

(ii) **Price expectations:** If people expect a further rise in the price particular commodity, they may buy more in spite of rise in price. The violation of the law in this case is only temporary.

(3) **Ignorance of the consumer:** If the consumer is ignorant about the rise in price of goods, he may buy more at a higher price.

(iv) **Giffen goods:** If the prices of basic goods, (potatoes, sugar, etc) on which the poor spend a large part of their incomes declines, the poor increase the demand for superior goods, hence when the price of Giffen good falls, its demand also falls. There is a positive price effect in case of Giffen goods.

v) Demonstration effect or 'Band-wagon-effect'

When new goods come in fashion, many people buy them not because they have a genuine need for them but because their neighbors have bought the same goods. The purchase made by the buyers are made out of such feelings as jealousy, competition, equality in the peer group, social inferiority and the desire to raise their social status. Purchases made on account of these factors are the result of what economists call 'demonstration effect' or the 'Band-wagon-effect'. These effects have a positive effect on demand.

Reasons Behind the law of demand:

Demand Curve is negatively Sloped:

The demand curve generally slopes downward from left to right. It has a negative slope because the two important variables price and quantity work in opposite direction. As the price of a commodity decreases, the quantity demanded increases over a specified period of time, and vice versa, other , things remaining constant.

The fundamental reasons for demand curve to slope downward are as follows:

(i) **Law of diminishing marginal utility:** The law of demand is based on the law of diminishing marginal utility. According to the cardinal utility approach, when a consumer purchases more units of a commodity, its marginal utility declines. The consumer, therefore, will purchase more units of that commodity only if its price falls. Thus a decrease in price brings about an increase, in demand. The demand curve, therefore, is downward sloping.

(ii) **Income effect:** Other things being equal, when the price of a commodity decreases, the real income or the purchasing power of the household increases. The consumer is now in a position to purchase more commodities with the same income. The demand for a commodity thus increases not only from the existing buyers but also

from the new buyers who were earlier unable to purchase at higher price. When at a lower price, there is a greater demand for a commodity by the households, the demand curve is bound to slope downward from left to right.

(iii) Substitution effect: The demand curve slopes downward from left to right also because of the substitution effect. For instance, the price of meat falls and the prices of other substitutes say poultry and beef remain constant. Then the households would prefer to purchase meat because it is now relatively cheaper. The increase in demand with a fall in the price of meat will move the demand curve downward from left to right.

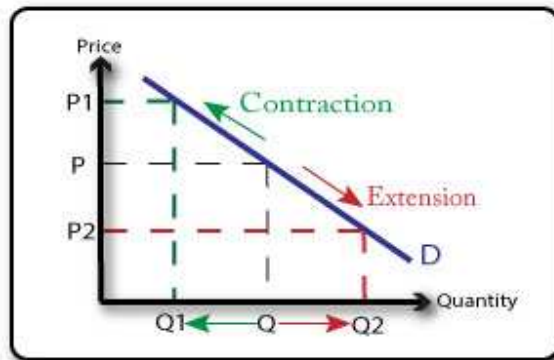
(iv) Entry of new buyers: When the price of a commodity falls, its demand not only increases from the old buyers but the new buyers also enter the market. The combined result of the income and substitution effect is that demand extends, ceteris paribus, as the price falls. The demand curve slopes downward from left to right.

Changes in demand for a commodity can be shown through the demand curve in two ways:

(1) Movement Along the Demand Curve and (2) Shifts of the Demand Curve.

(1) Movement along the Demand Curve:

A movement refers to a change along a curve. On the demand curve, a movement denotes a change in both price and quantity demanded from one point to another on the curve. Therefore, a movement occurs when a change in the quantity demanded is caused only by a change in price, and vice versa.



Expansion in Demand:

Expansion in demand refers to a rise in the quantity demanded due to a fall in the price of commodity, other factors remaining constant.

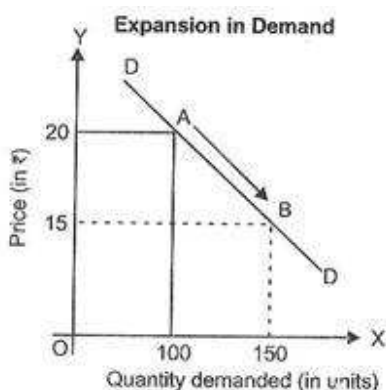


Fig. 3.5

- i. It leads to a downward movement along the same demand curve.
- ii. It is also known as 'Extension in Demand' or 'Increase in Quantity demanded'. It can be better understood from Table and Fig. 3.5

Price (Rs.)	Demand (units)
20	100
15	150

As seen in the given schedule and diagram, the quantity demanded rises from 100 units to 150 units with a fall in the price from Rs. 20 to Rs. 15, resulting in a downward movement from A to B along the same demand curve DD.

Contraction in Demand:

Contraction in demand refers to a fall in the quantity demanded due to a rise in the price of commodity, other factors remaining constant.

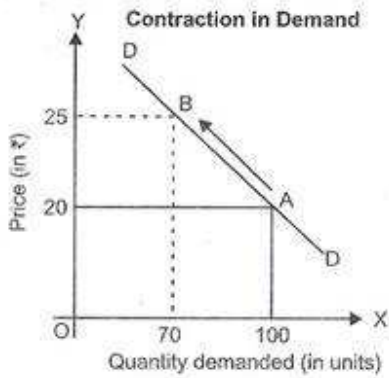


Fig. 3.6

- i. It leads to an upward movement along the same demand curve.
- ii. It is also known as ‘Decrease in Quantity Demanded’. It can be better understood from Table and Fig. 3.6.

Table : Contraction in Demand

Price (Rs.)	Demand (units)
20	100
25	70

As seen in the given schedule and diagram, the quantity demanded falls from 100 units to 70 units with a rise in the price from Rs. 20 to Rs. 25, resulting in an upward movement from A to B along the same demand curve DD.

(2) Shifts in Demand Curve:

Demand, as we know, is determined by many factors. When there is a change in demand due to one or more than one factors other than price, results in the shift of demand curve.

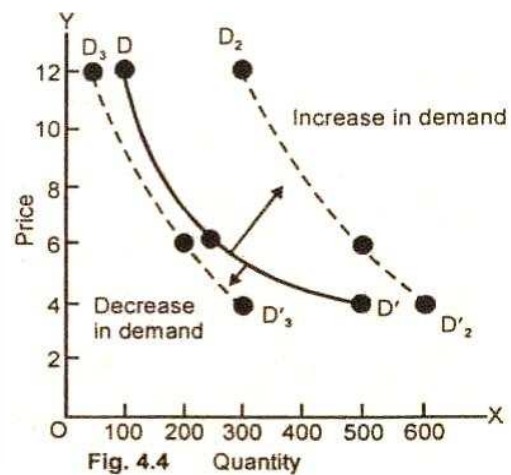
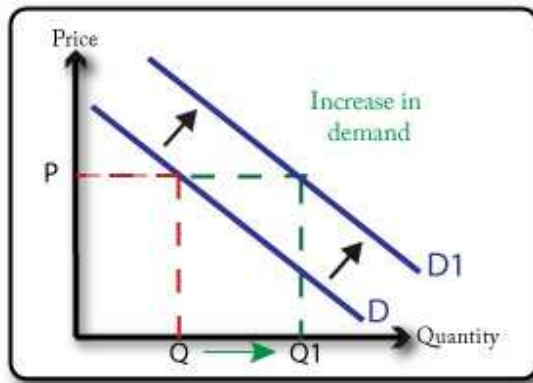
For example, if the level of income in community rises, other factors remaining the same, the demand for the goods increases. Consumers demand more goods at each price per period of time (rise or Increase in demand). The demand curve shifts upward from the original demand curve indicating that consumers at each price purchase more units of commodity per unit of time.

If there is a fall in the disposable income of the consumers or rise in the prices of close substitute of a good or decline in consumer taste or non-availability of good on credit, etc., etc., there is a reduction in demand (fall or decrease in demand). The fall or decrease in demand shifts the demand curve from the original demand curve to the left. The lower demand curve shows that consumers are able and willing to buy less of the good at each price than before.

Schedule:

P^{dx} (\$)	Q^{dx}	Rise in Q^{dx}	Fall in Q^{dx}
12	100	300	50
6	250	500	200
4	500	600	300

Diagram/Figure:



In this figure, the original demand curve is DD' .

At a price of \$12 per unit, consumers purchase 100 units. When price falls to \$4 per unit, the quantity demanded increases to 500 units per unit of time. Let us assume now that level of income increases in a community. Now consumers demand 300 units of the commodity at price of \$12 per unit and 600 at price of \$4 per unit.

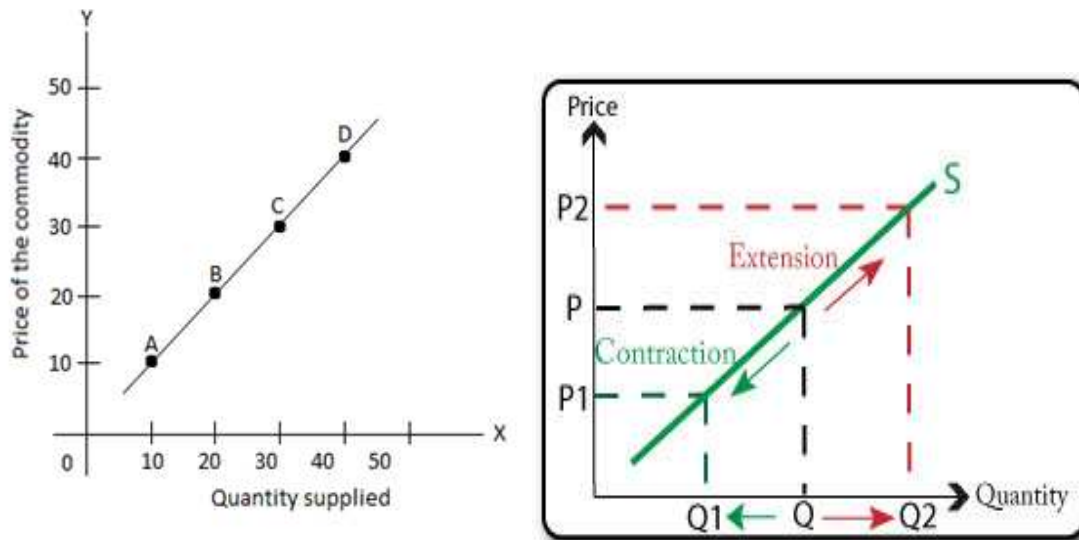
As a result, there is an upward shift of the demand curve DD^2 . In case the community income falls, there is then decrease in demand at price of \$12 per unit. The quantity demanded of a good falls to 50 units. It is 300 units at price of \$4 unit per period of time. There is a downward shift of the demand to the left of the original demand curve.

Movement along a supply curve

The amount of commodity supplied changes with rise and fall of the price while other determinants of supply remain constant. This change when shown in the graph is known as movement along a supply curve.

In simple words, movement along a supply curve represents the variation in quantity supplied of the commodity with change in its price and other factors remaining unchanged.

The movement in supply curve can be of two types – extension and contraction. Extension in a supply curve is caused when there is increase in the price or quantity supplied of the commodity while contraction is caused due to decrease in the price or quantity supplied of the commodity.



In the above fig. II, let us suppose Rs. 20 is the original price of milk per liter and 20,000 liters is the original quantity of supply. When the price rises from Rs. 20 to Rs. 30, the amount of quantity supplied rises from 20,000 liters to 30,000 liters, and there is a movement in the supply curve from point B to point C. This movement is known as extension in supply curve.

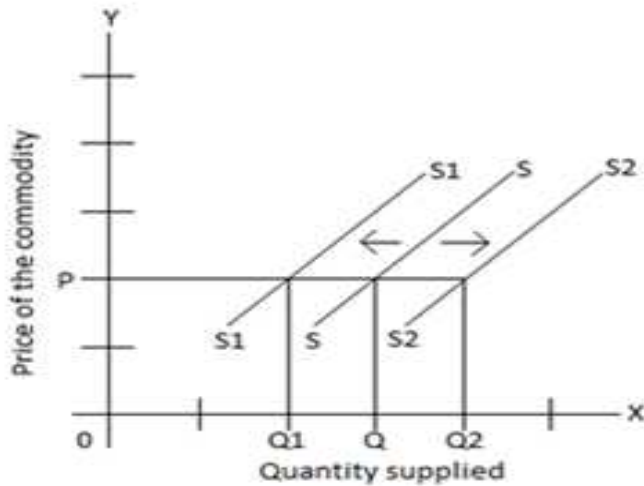
Similarly, when price falls from Rs. 20 to Rs. 10, the amount of quantity supplied falls from 20,000 liters to 10,000 liters, and there is another movement in the supply curve from point B to point A. This movement is known as contraction in supply curve.

Shift in supply curve

The amount of commodity that the producers or suppliers are willing to offer at the marketplace can change even in cases when factors other than price of the commodity change. Such non-price factors can be cost of factors of production, tax rate, state of technology, natural factors, etc.

When quantity of the commodity supplied changes due to change in non-price factors, the supply curve does not extend or contract but shifts entirely. For an instance, introduction of improved technology in industries helps in reducing cost of production and induces production of more units of commodity at same price. As a result, quantity of commodity supplied increases but price of the commodity remains as it is.

Fig.Shift in supply curve



Shift in supply curve can also be of two types – rightward shift and leftward shift. Rightward shift occurs in supply curve when quantity of supplied commodity increases at same price due to favorable changes in non-price factors of production of commodity. Similarly, leftward shift occurs when quantity of supplied commodity decreases at the same price.

In the above fig. III, let us suppose that SS is the original supply curve where Q amount of commodity have been supplied at price P . Due to favorable changes in non-price factors, the production of the commodity has increased and its supply has been increased by $Q_2 - Q$ amount, at the same price. This has caused the supply curve rightwards and new supply curve S_2S_2 has formed.

In the same, due to unfavorable changes in non-price factors of the commodity, the production and supply has fallen to Q_1 amount. Accordingly, the supply curve has shifted leftwards and new supply curve S_1S_1 has formed.

Reasons for rightward shift of supply curve

- Improvement in technology
- Decrease in tax
- Decrease in cost of factor of production
- Favorable weather condition
- Seller's expectation of fall in price in future

Reasons for leftward shift of supply curve

- Use of old or outdated technology
- Increase in tax
- Increase in cost of factor of production
- Unfavorable weather condition
- Seller's expectation of rise in price in future

Market Equilibrium:

Market equilibrium is a market state where the supply in the market is equal to the demand in the market. The equilibrium price is the price of a good or service when the supply of it is equal to the demand for it in the market. If a market is at equilibrium, the price will not change unless an external factor changes the supply or demand, which results in a disruption of the equilibrium.

Refer Book material

UNIT III

PRODUCT AND FACTOR MARKET

Product market – perfect and imperfect market – different market structures – Firm’s equilibrium and supply – Market efficiency – Economic costs of imperfect competition – factor market – Land, Labour and capital – Demand and supply – determination of factor price – Interaction of product and factor market – General equilibrium and efficiency of competitive markets.

What is Market? Meaning

Usually, **Market** means a place where buyer and seller meets together in order to carry on transactions of goods and services.

Market refers to an arrangement, whereby buyers and sellers come in contact with each other directly or indirectly, to buy or sell goods."

Thus, above statement indicates that face to face contact of buyer and seller is not necessary for market. E.g. In stock or share market, the buyer and seller can carry on their transactions through internet.

Product market:

Product markets are the markets for consumer goods and services. In the product market, households are buyers and firms are sellers. Households buy the goods and services that firms produce and sell. The payments from the households to the firms, for the purchases of goods and services, flow to the firms at the same time as goods and services flow to the households.

FACTOR MARKET

Factor market or input market are where households sell the use of their inputs(Capital, land, labour, entrepreneurship) to firms. In the factor market, households are the sellers and firms are the buyers. Households receive money payments from firms as compensation for the labour, land, capital and entrepreneurship needed to produce goods and services. These payments take the form of wages(salaries),rent, interest payments and profit

A market used to exchange the services of a factor of production: labor, capital, land , and entrepreneurship. Factor markets, also termed resource markets, exchange the services of factors, NOT the factors themselves. For example, the labor services of workers are exchanged through factor markets NOT the actual workers. Buying and selling the actual workers is not only slavery (which is illegal) it's also the type of exchange that would take place through product markets, not factor markets. More realistically, capital and land are two resources than can be and are legally exchanged through product markets. The services of these resources, however, are exchanged through factor markets. The value of the services exchanged through factor markets each year is measured as national income

Classification or Types of Market

The classification or types of market are depicted in the following chart.

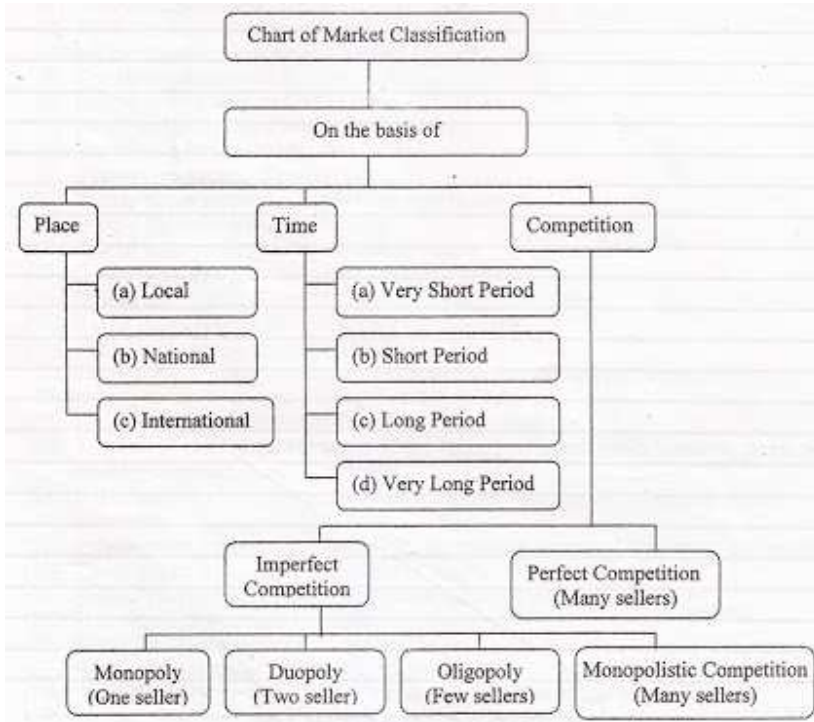


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Generally, the market is classified on the basis of:

1. Place,
2. Time and
3. Competition.

On the basis of **Place**, the market is classified into:

1. Local Market or Regional Market.
2. National Market or Countrywide Market.
3. International Market or Global Market.

On the basis of **Time**, the market is classified into:

1. Very Short Period Market.
2. Short Period Market.
3. Long Period Market.
4. Very Long Period Market.

On the basis of **Competition**, the market is classified into:

1. Perfectly Competitive Market Structure.
2. Imperfectly Competitive Market Structure.

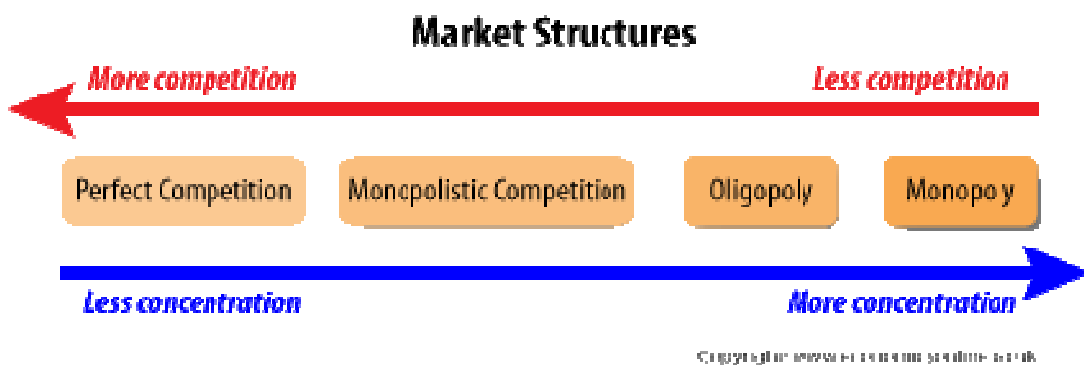
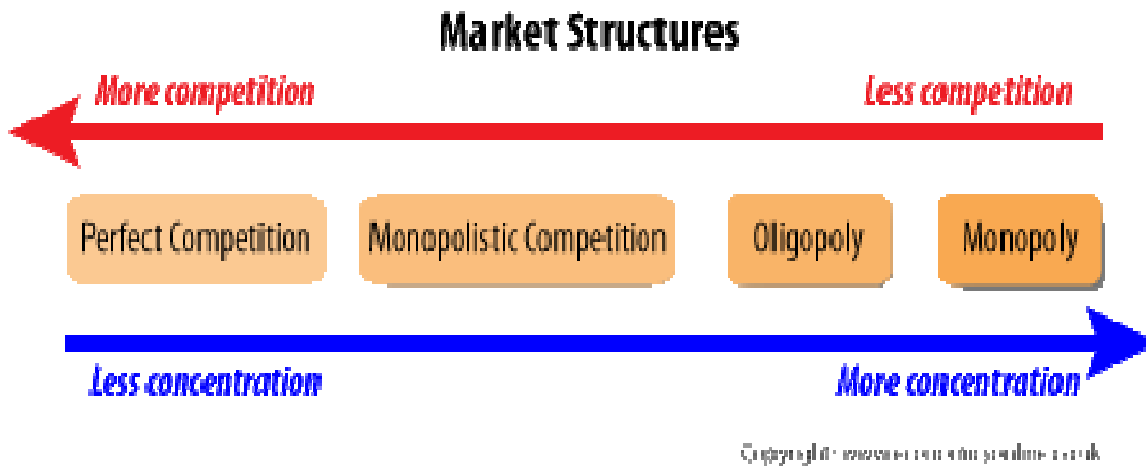
Both these market structures widely differ from each other in respect of their features, price, etc. Under imperfect competition, there are different forms of markets like monopoly, duopoly, oligopoly and monopolistic competition.

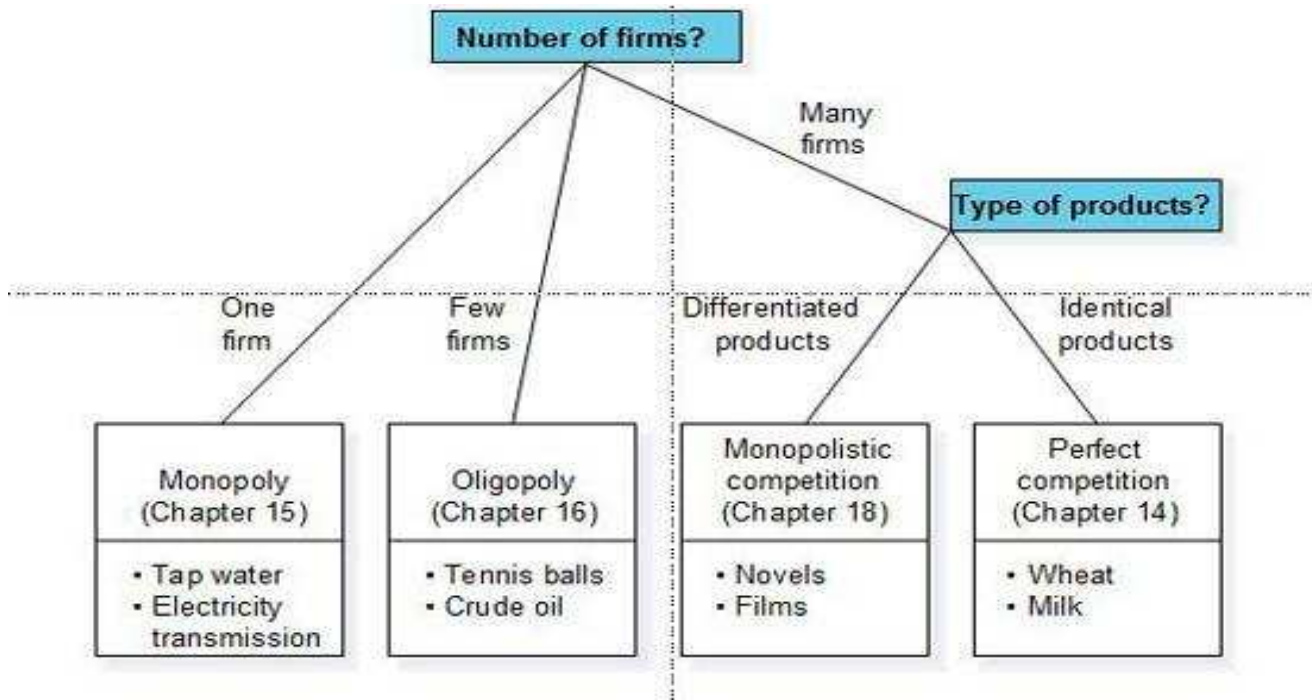
1. A monopoly has only one or a single (mono) seller.

2. Duopoly has two (duo) sellers.
3. Oligopoly has little or fewer (oligo) number of sellers.
4. Monopolistic competition has many or several numbers of sellers.

Market structures

Structures are classified in term of the presence or absence of competition. When competition is absent, the market is said to be *concentrated*. There is a spectrum, from *perfect competition* to *pure monopoly*.





Monopoly:

A situation in which a single company or group owns all or nearly all of the market for a given type of product or service. By definition, monopoly is characterized by an absence of competition, which often results in high prices and inferior products. Companies which are state owned and entry for other players are not allowed.

If we take example from Indian perspective there is one example we can think of is Indian railway which is the monopoly as there is no other contributor exercising in the same market.

Characteristics of Monopoly:

1. Single seller:

The producer or seller of the commodity is a single person, firm or an individual and that firm has complete control on the output of the commodity.

2. No Close Substitutes:

All the units of a commodity are similar and there are no substitutes to that commodity.

3. No Entry for New Firms:

Monopoly situation in a market can continue only when other firms do not enter the industry. If new firms enter the industry, there will not be complete control of a firm on the supply. As such, whenever a firm enters the industry, monopoly situation comes to an end. There/ort, monopoly industry is essentially one-firm industry. This signifies that under monopoly there is no difference between a firm and an industry.

4. Profit in the Long Run:

A monopolist can earn abnormal profit even in the long run because he has no fear of a competitive seller. In other words, if a monopolist gets abnormal profits in the long run, he cannot be dislodged from this position. However, this is not possible under perfect competition. If abnormal profits are available to a competitive firm, other firms will enter the competition with the result abnormal profits will be eliminated.

5. Losses in the Short Period:

Generally, a common man thinks that a monopoly firm cannot incur loss because it can fix any price it wants. However, this understanding is not correct. A monopoly firm can sustain losses equal to fixed cost in the short period. A monopolist means that there is only a single person or a firm to sell the commodity.

Therefore, anybody who would like to buy that commodity will buy it from the monopolist only. However, if a firm has monopoly of such a commodity which people buy less or do not buy, it can incur losses or it may have to stop production even. For example, if someone has the monopoly of yellow hair dye, it is natural that the firm has the possibility of incurring losses because it is a product which people generally don't buy.

6. Nature of Demand Curve:

Under monopoly the demand for the commodity of the firm is less than being perfectly elastic and, therefore, it slopes downwards to the right. The main reason of the demand curve sloping downwards to the right is the

complete control of the monopolist on the supply of the commodity. Due to control on the supply a monopolist makes changes in the supply which brings about changes in the price and because of this demand changes in the opposite direction. In other words, if a monopolist increases the price of the commodity, the amount of quantity sold decreases. Therefore, demand curve (AR) slopes downwards to the right. The nature of demand curve has been shown in the diagram. DD is demand curve, which has a negative slope.

7. Price-discrimination:

From the point of view of profit a monopolist can change different prices from different consumers of his commodity. This policy is known as price discrimination. He adopts the policy of price discrimination on various bases such as charging different prices from different consumers or fixing different prices at different places etc.

8. Firm is a Price-Maker:

A competitive firm is a price-taker whereas a monopoly firm is a price-maker. This is because a competitive firm is small compared to market and therefore, it does not have market power. This is not true in the case of a monopoly firm because it has market power. Hence, it is a price maker

9. Average and Marginal Revenue Curves:

Under monopoly, average revenue is greater than marginal revenue. Under monopoly, if the firm wants to increase the sale it can do so only when it reduces its price. This means AR would decline when sale increases. In that case MR would be less than AR. (ii) AR slopes downwards to the right and is greater than MR.

Oligopoly:

Oligopoly describes a market structure in which there are few large firms. They offer the same product for sale and compete aggressively for market dominance. Examples of firms in this market structure are telecommunications and petroleum companies. Entry into this industry is also difficult as start-up costs are very high, there is control of strategic raw material and information is not easily available.

It is a situation in which a particular market is controlled by a small group of firms. An oligopoly is much like a monopoly, in which only one company exerts control over most of a market. In an oligopoly, there are at least two firms controlling the market. The retail gas market is a good example of an oligopoly because a small number of firms control a large majority of the market.

Industries which are examples of oligopolies include:

- Steel industry
- Aluminum
- Film
- Television
- Cell phone
- Gas

Characteristics of Oligopoly:

1. Interdependence:

The firms under oligopoly are interdependent in making decision. They are interdependent because the number of competition is few and any change in price & product etc by an firm will have a direct influence on the fortune of its rivals, which in turn retaliate by changing their price and output. Thus under oligopoly a firm not only considers the market demand for its product but also the reactions of other firms in the industry. No firm can fail to take into account the reaction of other firms to its price and output policies. There is, therefore, a good deal of interdependences of the firm under oligopoly.

2. Importance of advertising and selling costs:

The firms under oligopolistic market employ aggressive and defensive weapons to gain a greater share in the market and to maximise sale. In view of this firms have to incur a great deal on advertisement and other measures of sale promotion. Thus advertising and selling cost play a great role in the oligopolistic market structure. Under perfect competition and monopoly expenditure on advertisement and other measures is unnecessary. But such expenditure is the life-blood of an oligopolistic firm.

3. Group behaviour:

Another important feature of oligopoly is the analysis -of group behaviour. In case of perfect competition, monopoly and monopolistic competition, the business firms are assumed to behave in such a way as to maximize their profits. The profit-maximizing behaviour on his part may not be valid. The firms under oligopoly are interdependent as they are in a group.

4. Indeterminateness of demand curve:

This characteristic is the direct result of the interdependence characteristic of an oligopolistic firm. Mutual interdependence creates uncertainty for all the firms. No firm can predict the consequence of its price-output policy. Under oligopoly a firm cannot assume that its rivals will keep their price unchanged if he makes change in its own price. As a result, the demand curve facing an oligopolistic firm loses its determinateness.

The demand curve as is well known, relates to the various quantities of the product that could be sold at different levels of prices when the quantity to be sold is itself unknown and uncertain the demand curve can't be definite and determinate.

5. Elements of monopoly:

There exist some elements of monopoly under oligopolistic situation. Under oligopoly with product differentiation each firm controls a large part of the market by producing differentiated product. In such a case it acts in its sphere as a monopolist in fixing price and output.

6. Price rigidity:

Under oligopoly there is the existence price rigidity. Prices tend to be rigid and sticky. If any firm makes a price-cut it is immediately retaliated by the rival firms by the same practice of price-cut. There occurs a price-war in the oligopolistic condition. Hence under oligopoly no firm resorts to price-cut without making price-output decision with other rival firms. The net result will be price -finite or price-rigidity in the oligopolistic condition.

Monopolistic Competition:

Monopolistic competition is a form of imperfect competition where many competing producers sell products that are differentiated from one another (that is, the products are substitutes, but, with differences such as branding, are not exactly alike). In monopolistic competition firms can behave like monopolies in the short-run, including using market power to generate profit. In the long-run, other firms enter the market and the benefits of differentiation decrease with competition; the market becomes more like perfect competition where firms cannot gain economic profit.

Clothing is an example of monopolistic competition. Even if we take any specific item of clothing, such as a simple shirt, then we will see that there are several producers and almost the entire world population as consumers.

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

Characteristics

Monopolistically competitive markets exhibit the following characteristics:

1. Each firm makes independent decisions about price and output, based on its product, its market, and its costs of production.
2. Knowledge is widely spread between participants, but it is unlikely to be perfect. For example, diners can review all the menus available from restaurants in a town, before they make their choice. Once inside the restaurant, they can view the menu again, before ordering. However, they cannot fully appreciate the restaurant or the meal until after they have dined.
3. The entrepreneur has a more significant role than in firms that are perfectly competitive because of the increased risks associated with decision making.
4. There is freedom to enter or leave the market, as there are no major barriers to entry or exit.
5. A central feature of monopolistic competition is that products are differentiated. There are four main types of differentiation:
 1. *Physical product differentiation*, where firms use size, design, colour, shape, performance, and features to make their products different. For example, consumer electronics can easily be physically differentiated.
 2. *Marketing differentiation*, where firms try to differentiate their product by distinctive packaging and other promotional techniques. For example, breakfast cereals can easily be differentiated through packaging.
 3. *Human capital differentiation*, where the firm creates differences through the skill of its employees, the level of training received, distinctive uniforms, and so on.

4. *Differentiation through distribution*, including distribution via mail order or through internet shopping, such as Amazon.com, which differentiates itself from traditional bookstores by selling online.
6. Firms are *price makers* and are faced with a downward sloping demand curve. Because each firm makes a unique product, it can charge a higher or lower price than its rivals. The firm can set its own price and does not have to 'take' it from the industry as a whole, though the industry price may be a guideline, or becomes a constraint. This also means that the demand curve will slope downwards.
7. Firms operating under monopolistic competition usually have to engage in advertising. Firms are often in fierce competition with other (local) firms offering a similar product or service, and may need to advertise on a local basis, to let customers know their differences. Common methods of advertising for these firms are through local press and radio, local cinema, posters, leaflets and special promotions.
9. Monopolistically competitive firms are assumed to be profit maximisers because firms tend to be small with entrepreneurs actively involved in managing the business.
10. There are usually a large numbers of independent firms competing in the market.

Perfect competition:

This market structure is characterized by many buyers and many sellers of a product. The product is not unique as it is available from many sellers. Firms in this market structure are price takers as they cannot sell above the price of their competitors. Firms must accept the market's price as there are several competitors. There is perfect knowledge about the business and there are no barriers of high start-up cost and control of strategic raw materials.

Perfect competition (sometimes called *pure competition*) describes markets such that no participants are large enough to have the market power to set the price of a homogeneous product

The staple food and vegetables we buy from the market is perfect competition. However when they start branding they move toward oligopoly.

Key characteristics

- **Large number of firms.** The basic condition of perfect competition is that there are large numbers of firms in an industry. Each firm in the industry is so small and its output so negligible that it exercises little influence over price of the commodity in the market. A single firm cannot influence the price of the product either by reducing or increasing its output. An individual firm takes the market price as given and adjusts its output accordingly. In a competitive market, supply and demand determine market price. The firm is price taker and output adjuster.
- **Large number of buyers.** In a perfect competitive market, there are very large number of buyers of the product. If any consumer purchases more or purchases less, he is not in a position to affect the market price of the commodity. His purchase in the total output is just like a drop in the ocean. He, therefore, too like the firm, is a price taker.
- **The product is homogeneous.** Another provision of perfect competition is that the good produced by all the firms in the industry is identical. In other words, the cross elasticity between the products of the firm is infinite.
- **No barriers to entry.** The firms in a competitive market have complete freedom of entering into the market or leaving the industry as and when they desire. There are no legal, social or technological! barriers for the new firms (or new capital) to enter or leave the industry. Any new firm is free to start production if it so desires and stop production and leave the industry if it so wishes. The industry, thus, is characterized by freedom of entry and exit of firms.
- **Complete information.** Another condition for perfect competition is that the consumers and producers possess perfect information about the prevailing price of the product in the market. The consumers know the ruling price, the producers know costs, the workers know about wage rates and so on. In brief, the consumers, the resource owners have perfect knowledge about the current price of the product in the market. A firm, therefore, cannot charge higher price than that ruling in the market. If it does so, its goods will remain unsold as buyers will shift to some other seller.

- **Profit maximization.** For perfect competition to exist, the sole objective of the firm must be to get maximum profit.

Price-Output determination

Demand in a Perfectly Competitive Market

The demand and supply curves for a perfectly competitive market are illustrated in Figure (a); the demand curve for the output of an individual firm operating in this perfectly competitive market is illustrated in Figure (b).

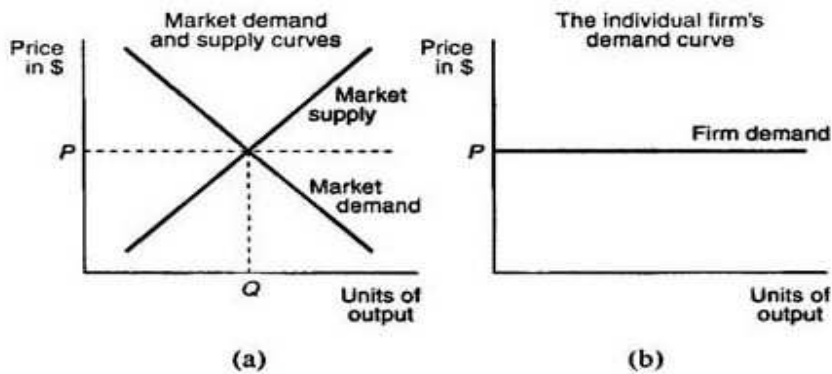


Figure 1 Market and firm demand curves in a perfectly competitive market

Note that the demand curve for the market, which includes all firms, is *downward sloping*, while the demand curve for the individual firm is *flat or perfectly elastic*, reflecting the fact that the individual takes the market price, P , as given. The difference in the slopes of the market demand curve and the individual firm's demand curve is due to the assumption that each firm is small in size. No matter how much output an individual firm provides, it will be unable to affect the market price. Note that the individual firm's equilibrium quantity of output will be completely determined by the amount of output the individual firm chooses to supply

Price Discrimination

Price discrimination or price differentiation^[1] exists when sales of identical goods or services are transacted at different prices from the same provider.^[2] In a theoretical market with perfect information, perfect substitutes, and no transaction costs or prohibition on secondary exchange (or re-selling) to prevent arbitrage, price discrimination can only be a feature of monopolistic and oligopolistic markets,^[3] where market power can be exercised. Otherwise, the moment the seller tries to sell the same good at different prices, the buyer at the lower price can arbitrage by selling to the consumer buying at the higher price but with a tiny discount. However, product heterogeneity, market frictions or high fixed costs (which make marginal-cost pricing unsustainable in the long run) can allow for some degree of differential pricing to different consumers, even in fully competitive retail or industrial markets.

The effects of price discrimination on social efficiency are unclear. Output can be expanded when price discrimination is very efficient. Even if output remains constant, price discrimination can reduce efficiency by misallocating output among consumers.

Price discrimination requires market segmentation and some means to discourage discount customers from becoming resellers and, by extension, competitors. This usually entails using one or more means of preventing any resale: keeping the different price groups separate, making price comparisons difficult, or restricting pricing information. The boundary set up by the marketer to keep segments separate is referred to as a *rate fence*. Price discrimination is thus very common in services where resale is not possible; an example is student discounts at museums: In theory, students, for their condition as students, may get lower prices than the rest of the population for a certain product or service, and later will not become resellers, since what they received, may only be used or consumed by them. Another example of price discrimination is intellectual property, enforced by law and by technology. In the market for DVDs, DVD-players are designed and produced-

by law- with hardware or software to prevent inexpensive copying or playing of content purchased legally elsewhere in the world (for example legally purchased in India) from being used in a higher price market (like in the US or Europe). The Digital Millennium Copyright Act has provisions to outlaw circumventing of such devices to protect the enhanced monopoly profits that copyright holders can obtain from price discrimination against higher price market segments.

Price discrimination can also be seen where the requirement that goods be identical is relaxed. For example, so-called "premium products" (including relatively simple products, such as cappuccino compared to regular coffee with cream) have a price differential that is not explained by the cost of production. Some economists have argued that this is a form of price discrimination exercised by providing a means for consumers to reveal their willingness to pay.

Some examples worth considering include:

- Cinemas and theatres cutting prices to attract younger and older audiences
- Student discounts for rail travel, restaurant meals and holidays
- Car rental firms cutting prices at weekends
- Hotels offering cheap weekend breaks and winter discounts

The aims of price discrimination

It must be remembered that the main aim of price discrimination is to increase the **total revenue** and/or profits of the supplier! It helps them to off-load excess capacity and can also be used as a technique to take market share away from rival firms.

Some consumers do benefit from this type of pricing - they are "priced into the market" when with one price they might not have been able to afford a product. For most consumers however the price they pay reflects pretty closely what they are willing to pay. In this respect, price discrimination seeks to extract **consumer surplus** and turn it into **producer surplus** (or monopoly profit).

Pricing Strategies or Pricing Methods in practice

There is no limit to the number of variations in pricing strategies and tactics. This wide variety of options is exactly what allows small business owners to be so creative. Pricing always plays a critical role in a firm's overall strategy: pricing policies must be compatible with a company's total marketing plan.

Introducing a New Product

Most small business owners approach setting the price of a new product with a great deal of apprehension because they have no precedent on which to base their decision. If the new product's price is excessively high, it is in danger of failing because of low sales volume. However, if it is priced too low, the product's sales revenue might not cover costs. When pricing any new product, the owner should try to satisfy these objectives:

1. Getting the product accepted. No matter how unusual a product is, its price must be acceptable to the firm's potential customers.
2. Maintaining market share as competition grows. If a new product is successful, competitors will enter the market, and the small company must work to expand or at least maintain its market share. Continuously reappraising the product's price in conjunction with special advertising and promotion techniques helps to retain a satisfactory market share.
3. Earning a profit. Obviously, a small firm must establish a price for the new product higher than its cost. Entrepreneurs should not introduce a new product at a price below cost because it is much easier to lower a price than to increase it once the product is on the market.

Small business owners have three basic strategies to choose from when establishing a new product's price: a penetration pricing strategy, a skimming pricing strategy, and a sliding –down the demand curve strategy.

Market penetration. If a business introduces a product into a highly competitive market in which a large number of similar products are competing for acceptance, the product must penetrate the market to be successful. To gain quick acceptance and extensive distribution in the mass market, the firm should introduce the product with a low price. In other words, it should set the price just above total unit cost to develop a wedge in the market and quickly achieve a high volume of sales. The resulting low profit margins may discourage other competitors from entering the market with similar products.

In most cases, a penetration strategy is used to introduce relatively low-priced goods into a market with no elite segment and little opportunity for differentiation exists. The introduction is usually accompanied by heavy advertising and promotional techniques, special sales, and discounts. Entrepreneurs must recognize that penetration pricing is a long range strategy; until consumers accept the product, profits are likely to be small. If the strategy works and the product achieves mass market penetration, sales volume will increase, and the company will earn adequate profits. The objectives of the penetration strategy are to break into the market quickly, to generate high sales volume as soon as possible, and to build market share. Many consumer products, such as soap, shampoo, and lightbulbs, are introduced through penetration pricing strategies.

Skimming. A skimming pricing strategy often is used when a company introduces a new product into market with little or no competition. Sometimes the firm employs this tactic when introducing a product into a competitive market that contains an elite group that is able to pay a higher price. Here a firm uses a higher than normal price in an effort to quickly recover the initial developmental and promotional costs of the product. Start up costs usually are substantial due to intensive promotional expenses and high initial production costs. The idea is to set a price well above the total unit cost and to promote the product heavily in order to appeal to the segment of the market that is not sensitive to price. Such a pricing tactic often reinforces the unique, prestigious image of a store and projects a quality picture of the product. Another advantage of this technique is that the owner can correct pricing mistakes quickly and easily. If the business sets a price that is too low under a penetration strategy, raising the price can be very difficult. If a business using the skimming strategy sets a price too high to generate sufficient volume, it can always lower the price. Successful skimming strategies require a company to differentiate its products or services from those of the competition, justifying the above average price.

Sliding Down the Demand Curve. One variation of the skimming price strategy is called sliding down the demand curve. Using this tactic, the small company introduces a product at a high price. Then technological advancements enable the firms to lower its costs quickly and to reduce the product's price before competition can. By beating other businesses in a price decline, the small company discourages competitors and gradually, over time, becomes a high volume producer. Computers are a prime example of a product introduced at a high price that quickly cascaded downward as companies forged important technological advances. Sliding is a short term pricing strategy that assumes that competition will eventually emerge. But even if no competition arises, the small business almost always lowers the product's price to attract a larger segment of the market. Yet, the initial high price contributes to a rapid return of start up costs and generates a pool of funds to finance expansion and technological advances.

Pricing Established Goods and Services

Each of the following pricing tactics or techniques can become part of the toolbox of pricing tactics entrepreneurs can use to set prices of established goods and services.

Odd Pricing. Although studies of consumer reaction to prices are mixed and generally inclusive, many small business managers use the technique known as odd pricing. These managers prefer to establish prices that end in odd numbers (5,7,9) because they believe that merchandise selling for \$12.95 appears much cheaper than the same item priced at \$13.00. Psychological techniques such as odd pricing are designed to appeal to certain customers interests, but their effectiveness remains to be proven.

Price Lining. Price lining is a technique that greatly simplifies the pricing function. Under this system, the manager stocks merchandise in several different price ranges, or price lines. Each category of merchandise contains items that are similar in appearance, quality, cost, performance, or other features. For example, most music stores use price lines for their DVDs and CDs to make it easier for customers to select items and to simplify stock planning. Most lined products appear in sets of three – good, better and best – at prices designed to satisfy different market segment needs and incomes.

Leader Pricing. Leader pricing is a technique in which the small retailer marks down the customary price of a popular item in an attempt to attract more customers. The company earns a much smaller profit on each unit because the markup is lower, but purchases of other merchandise by customers seeking the leader item often boost sales and profits. In other words, the incidental purchases that consumers make when shopping for the leader item boost sales revenue enough to offset a lower profit margin on the leader. Grocery stores often use leader pricing.

Geographical Pricing. Small businesses whose pricing decisions are greatly affected by the costs of shipping merchandise to customers across a wide range of geographical regions frequently employ one of the geographical pricing techniques. For these companies, freight expenses comprise a substantial portion of the cost of doing business and may cut deeply into already narrow profit margins. One type of geographical pricing is zone pricing, in which a small company sells its merchandise at different prices to customers located in different territories. For example, a manufacturer might sell at one price to customers east of the Mississippi and at another to those west of the Mississippi. The United States Postal Service's varying parcel post charges offer a good example of zone pricing. A small business must be able to show a legitimate basis for the price discrimination or risk violating Section 2 of the Clayton Act.

Another variation of geographic pricing is uniform delivered pricing, a technique in which a firm charges all of its customers the same price regardless of their location, even though the cost of selling or transporting the merchandise varies. The firm calculates the proper freight charges for each region and combines them into a uniform fee. The result is local customers subsidize the firm's charges for shipping merchandise to distant customers.

Opportunistic Pricing. When products or services are in short supply, customers are willing to pay more for products they need. Some businesses use such circumstances to maximize short-term profits by engaging in price gauging. Many customers have little choice but to pay the higher prices. Opportunistic pricing may backfire, however, because customers know that unreasonably high prices mean the company is exploiting them.

Discounts. Many small business owners use discounts or markdowns – reduction from normal list prices – to move stale, outdated, damaged, or slow-moving merchandise. A seasonal discount is a price reduction designed to encourage shoppers to purchase merchandise before an upcoming change of seasons. For instance, many retail clothiers offer special sales on winter coats in midsummer. Some firms grant purchase discounts to special groups of customers such as senior citizens or students, to establish a faithful clientele and to generate repeat business. For example, one small drugstore located near a state university offered a 10 percent student discount on all purchases and was quite successful in developing a large volume of student business.

Multiple unit pricing is a promotional technique that offers customers discounts if they purchase in quantity. Many products, especially those with relatively low unit volume, are sold using multiple unit pricing. For example, instead of selling an item for 50 cents, a small company might offer five for \$2.00.

Suggested Retail Price.

Many manufacturers print suggested retail prices on their products or include them on invoices or in wholesales catalogs. Small business owners frequently follow these suggested retail prices because this eliminates the need to make pricing decisions. Nonetheless, following prices established by a distant

manufacturer may create problems for the small business. For example, a high end retailer may try to create a high-quality, exclusive image through a prestige pricing policy, but manufacturers may suggest discount outlet prices that are incompatible with the small firm's image.

Another danger of accepting the manufacturer's suggested price is that it does not take into consideration the small firm's cost structure or competitive situation. A manufacturer cannot force a business to accept a suggested retail price or require a business to agree not to resell merchandise below a stated price because such practices violate the Sherman Antitrust Act and other legislation.

Pricing a new product is often difficult for the small business owner, but it should accomplish three objectives: getting the product accepted, maintaining market share as the competition grows, and earning a profit. Generally, there are three major pricing strategies used to introduce new products into the market: penetration, skimming, and sliding down the demand curve. Pricing techniques for existing products and services include odd pricing, price lining, leader pricing, opportunistic pricing, discounts, and suggested retail pricing.

UNIT IV

PERFORMANCE OF AN ECONOMY – MACRO ECONOMICS

Macro-economic aggregates – circular flow of macroeconomic activity – National income determination – Aggregate demand and supply – Macroeconomic equilibrium – Components of aggregate demand and national income – multiplier effect – Demand side management – Fiscal policy in theory

Macro-Economic Aggregates:

The performance of an economy is evaluated by considering the performance indicators. Some of these indicators are as follows:

1. Aggregate output level
2. Aggregate price level
3. Aggregate investment level
4. Aggregate consumption
5. Balance of Payments

1. Aggregate Output levels

Aggregate output is the total quantity of goods and services produced (or supplied) in an economy in a given period



Aggregate output=Factor Income=Expenditure

Aggregate Output is the total amount of output produced and supplied in the economy in a given period.

Aggregate Income is the total amount of income received by all factors of production in an economy in a given period. The two of them are always equal at any period of time

GDP:

Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period. GDP includes all private and public consumption, government outlays, investments and exports minus imports that occur within a defined territory.

$$\text{GDP} = C + \text{GI} + G + (X - M),$$

Where,

C = Consumption expenditure of Households.

GI = Gross Investment by Firms,

G = Government expenditure,

X - M = Value of exports - value of imports

Gross national Product:

GNP is the total value of all final goods and services produced within a nation in a particular year, plus income earned by its citizens. GNP measures the value of goods and services that the country's citizens produced regardless of their location.

"Gross National Product (or GNP) is an economic statistic that includes GDP, plus any income earned by residents from overseas investments, minus income earned within the domestic economy by overseas residents."

$$\text{GNP} = \text{GDP} + \text{Net factor Income from Abroad}$$

Net foreign income from abroad includes income earned by Indians from other countries, Deducts income earned by foreigners working in India.

If foreign income is positive, $\text{GNP} > \text{GDP}$

If foreign income is negative, $\text{GNP} < \text{GDP}$

Net Domestic Product (NDP)

Net domestic product is the amount of output we could consume without reducing our stock of capital.

$$\text{NDP} = \text{GDP} - \text{depreciation}$$

Net national product (NNP):

Net national product is defined as the total value of the goods and services that a country produces during a period of time, minus the depreciation cost of producing those goods and services.

$$\text{NNP} = \text{GNP} - \text{Depreciation}$$

2. Aggregate price levels

The aggregate price level refers to the general or aggregate price of the collective goods and services produced in an economy over a period of time. The calculation of this price is determined by various economic factors, including aspects like the effects of excessive demand and the effects of excessive supply.

i) Consumer Price Index

The CPI is calculated by taking price changes for each item in the predetermined basket of goods and averaging them; the goods are weighted according to their importance. Changes in CPI are used to assess price changes associated with the cost of living.

ii) Wholesale Price Index

Wholesale Price Index (WPI) represents the price of goods at a wholesale stage i.e. goods that are sold in bulk and traded between organizations instead of consumers. WPI is used as a measure of inflation in some economies.

iii) GDP Deflator:

GDP deflator is an index of price changes of goods and services included in GDP. It is a price index which is calculated by dividing the nominal GDP in a given year by the real GDP for the same year and multiplying it by 100.

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

$$\text{GDP Deflator} = \frac{\text{Nominal (or Current Prices) GDP}}{\text{Real (or Constant Prices) GDP}} \times 100$$

$$\text{For example, GDP Deflator in 1997-98} = \frac{1426.7 \text{th. crores}}{1049.2 \text{th. crores at}} \times 100 = 135.9$$

It shows that at constant prices (1993-94), GDP in 1997-98 increased by 135.9% due to inflation (or rise in prices) from Rs. 1049.2 thousand crores in 1993-94 to Rs. 1426.7 thousand crores in 1997-98.

3. Aggregate investment levels:

Investment is the second component of a nation's aggregate demand. Investment is defined as spending by firms on capital equipment or technology and by households on new homes

The determinants of Investment:

- **The Real Interest Rate:** Interest is the cost of borrowing money. Firms will borrow more to invest in new capital when the interest rate is low, and invest less when interest rates are high.
- **Business Confidence:** If firms are confident about the level of future demand for their products, they are more likely to invest now. If confidence is low, firms will withhold from making new investments
- **Technology:** New technology tends to spur new business investment, as firms rush to keep their manufacturing techniques as modern as efficient as possible and to produce the latest goods and services that consumers are demanding.
- **Business taxes:** When firms can keep a larger share of their revenues (i.e. when taxes are lower) they may invest more. Higher business taxes discourage new investments.
- **The degree of excess capacity:** If a firm's factories have excess capacity (meaning they are currently producing below the level they are capable of) firms will be less likely to invest since output can be increased without acquiring new capital.
- **Expectations:** If firms expect prices of their goods to be higher in the future, they are more likely to invest now. If lower prices are expected, firms have less incentive to invest now. Aggregate Demand

4. Aggregate Consumption levels

As one of the components of aggregate demand, consumption refers to all the spending done by households on goods and services. The level of consumption in a nation depends on several factors.

The determinants of Consumption

- **Disposable Income:** Refers to the after-tax incomes of households. As disposable income rises, C increases. If disposable income falls, C will fall.
- **Wealth:** When value of existing wealth (real assets and financial assets) increases, households tend to spend more on goods and services. When wealth decreases, consumption decreases.
- **Expectations:** If households expect prices or their incomes to rise in the future, then today C increase, shifting AD out. If they expect lower prices or incomes, then C will likely decrease, as households choose to save more for the hard times ahead.
- **Real Interest Rates:** Lower real interest rates lead to more C, as savings becomes less appealing and borrowing to buy durable goods can be done more cheaply.
- **Household Debt:** When consumers increase their debt level, they can consume more in the short-run. But if household debt is too high, C will eventually decrease
- **Taxation:** A higher tax decreases disposable income and causes C to fall. A decrease in taxes shifts both C outwards. Taxes are set by government as part of fiscal policy. Aggregate Demand

5. Balance of payments:

Balance of payment can be defined as systematic record of all economic transactions between the residence of one country and the residence of another country during a given period of time

COMPONENTS OF BALANCE OF PAYMENT:

1. **CURRENT ACCOUNT:** current account deals with the movement of exports and imports of goods and services. Merchandise may be private or government .It is the major item of the current account. Items of current account are as under:

- Exports and imports of visible items i.e. goods. It is also known as balance of trade.
- invisible items
- services
- unilateral transfers
- miscellaneous- commission, advertisement, royalties, patent fee etc.

Each one of these items has credit and debit depending on the principle of double entry book keeping.

2. **CAPITAL ACCOUNT:** deals with financial transactions between one country and rest of the world. These financial or capital transactions can be private ,government or institutional. It can be classified as short term and long term capital movements.

3. **Financial account** consists of financial assets, such as gold, currency, derivatives, special drawing rights, equity and bonds. And the major aspects of financial account are direct investment, portfolio investment, other investment ,reserve assets.

Circular Flow of Macroeconomic Activity

The term circular flow of income or circular flow of economic activity refers to “a simple economic model which describes the circulation/flow of income between producers and consumers”. In the circular flow model, producer and consumer are referred to as "firms" and "households" respectively.

Circular Flow Concepts

- **Product Market** – where goods and services are exchanged
- **Households** – suppliers of the factors of production & demanders of goods and services
- **Government** – providers of public goods and services & demanders of both private goods and services and the factors of production
- **Businesses / Firms** – suppliers of goods and services & demanders of the factors of production
- **Factor Market** – where the factors of production are exchanged

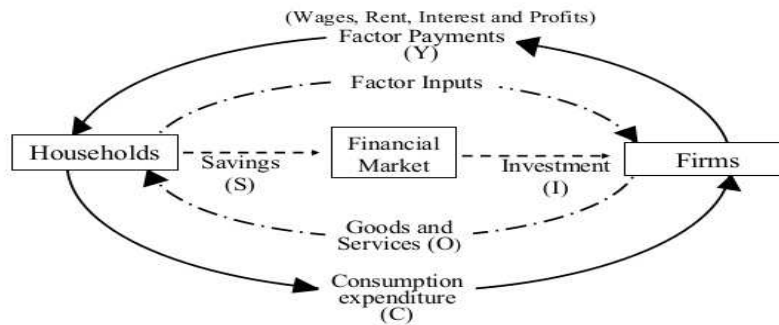
The circular-flow diagram is a model that represents the transactions in an economy by flows around a circle

1. Two Sector Model of Circular flow of Macroeconomic Activity

In the simple two sector circular flow of income model the state of equilibrium is defined as a situation in which there is no tendency for the levels of income (Y), expenditure (E) and output (O) to change, $Y=E=O$

This means that the expenditure of buyers (households) becomes income for sellers (firms). The firms then spend this income on factors of production such as labour, capital and raw materials, "transferring" their income to the factor owners. The factor owners spend this income on goods which leads to a circular flow of income

Circular Flow of Income (Two Sector Economy)

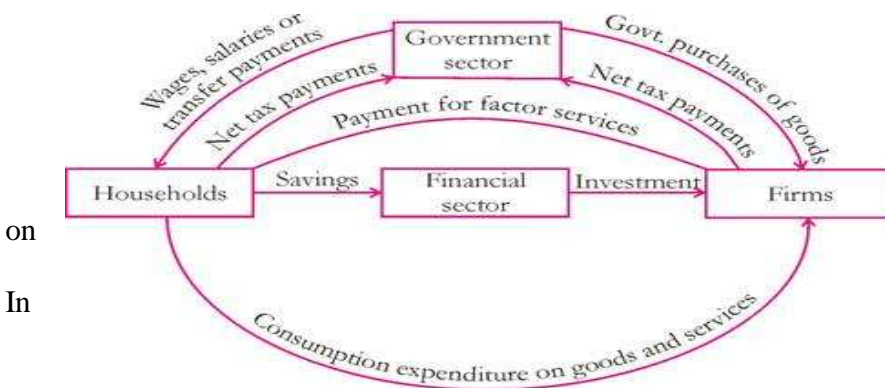


In the equilibrium $Y=E=O$

.Three Sector Model of Circular flow of Macroeconomic Activity

The three-sector, three-market circular flow model highlights the key role that the government sector plays in the macro economy. It expands the circular flow model by illustrating how taxes are diverted from consumption expenditures to the government sector and then used for government purchases. It illustrates that taxes do not vanish from the economy, but are merely diverted.

- Household sector supply the factor services like land, labor etc. to the business sector to produce
- Business sector pays rewards to the factor services provided by the household sector in terms of wage, interest etc.
- After producing the goods and services the business sector supplies it for selling.



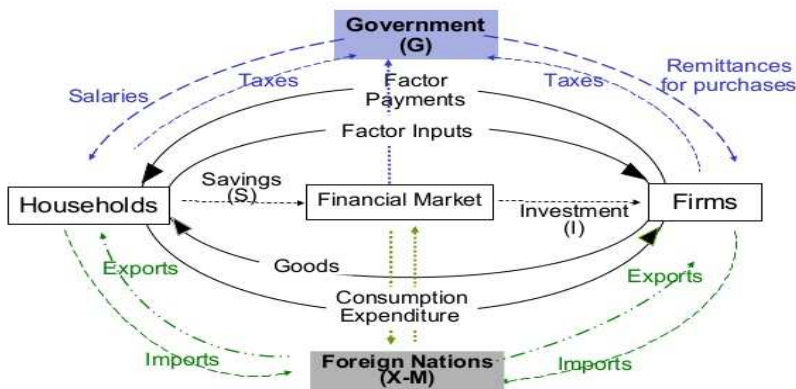
- The household sector buys goods and services and pays their earnings different goods and services.
- In an economy the household sector pays both direct taxes and

indirect taxes. This is the income of the government sector.

- Similarly the business sector also pays both direct taxes and indirect taxes. It is also the income of the government sector.
- The expenditure of the government sector. Government sector pays transfer payments like scholarships to students, pensions and other allowances to government employees etc. That is payment to the household sector.
- The expenditure of the government sector. Government pays subsidies to the industries, and other productive schemes to minimize their costs. This is the flow from government sector to the business sector.

Four Sector Model of Circular flow of Macroeconomic Activity

Circular Flow of Income (Four Sector Economy)



Circular flow of income in a four-sector economy consists of households, firms, government and foreign sector.

- **Household Sector:**

Households provide factor services to firms, government and foreign sector.

In return, it receives factor payments. Households also receive transfer payments from the government and the foreign sector.

- **Households spend their income on:**

- Payment for goods and services purchased from firms;
- Tax payments to government;
- Payments for imports.

- **Firms:**

Firms receive revenue from households, government and the foreign sector for sale of their goods and services. Firms also receive subsidies from the government.

- **Firm makes payments for:**

- Factor services to households;
- Taxes to the government;
- Imports to the foreign sector.

- **Government:**

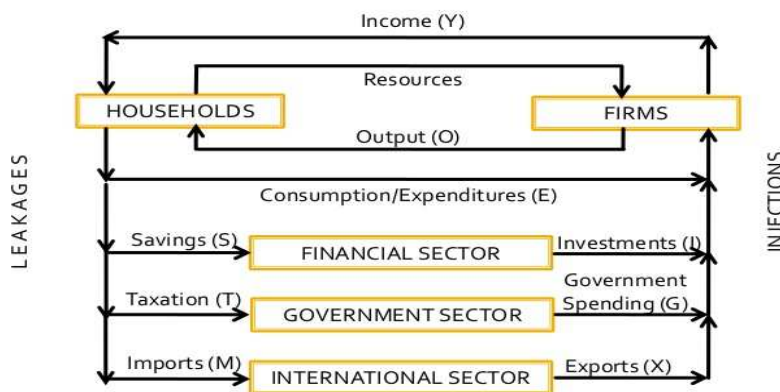
Government receives revenue from firms, households and the foreign sector for sale of goods and services, taxes, fees, etc. Government makes factor payments to households and also spends money on transfer payments and subsidies.

- **Foreign Sector:**

Foreign sector receives revenue from firms, households and government for export of goods and services. It makes payments for import of goods and services from firms and the government. It also makes payment for the factor services to the households.

The savings of households, firms and the government sector get accumulated in the financial market. Financial market invests money by lending out money to households, firms and the government. The inflows of money in the financial market are equal to outflows of money. It makes the circular flow of income complete and continuous. The circular flow of income in a four-sector economy

The 5-Sector Model



- The five sector model of the circular flow of income is a more realistic representation of the economy
- The first is the Financial Sector that consists of banks and non-bank intermediaries who engage in the borrowing (savings from

households) and lending of money. In terms of the circular flow of income model the leakage that financial institutions provide in the economy is the option for households to save their money.

- This is a leakage because the saved money cannot be spent in the economy and thus is an idle asset that means not all output will be purchased
- The injection that the financial sector provides into the economy is investment (I) into the business/firms sector.
- The leakage that the Government sector provides is through the collection of revenue through Taxes (T) that is provided by households and firms to the government. For this reason they are a leakage because it is a leakage out of the current income thus reducing the expenditure on current goods and services.
- The injection provided by the government sector is Government spending (G) that provides collective services and welfare payments to the community. An example of a tax collected by the government as a leakage is income tax and an injection into the economy can be when the government redistributes this income in the form of welfare payments that is a form of government spending back into the economy.
- The final sector in the circular flow of income model is the overseas sector which transforms the model from a closed economy to an open economy. The main leakage from this sector are imports (M), which represent spending by residents into the rest of the world. The main injection provided by this sector is the exports of goods and services which generate income for the exporters from overseas residents.

National income

National income or national product is defined as the total market value of all the final goods and services produced in an economy in a given period of time.

This suggests that the labor and capital of a country, working on the natural resources produces certain net amount of goods and services, the aggregates of which as known as national income or national products.

There are many concepts of national income which are used by different economists and all of which are inter-related.

Components /Concepts of National Income :

The important concepts of national income are:

1. Gross Domestic Product (GDP)
2. Gross National Product (GNP)
3. Net National Product (NNP) at Market Prices
4. Net National Product (NNP) at Factor Cost or National Income
5. Personal Income
6. Disposable Income

Let us explain these concepts of National Income in detail.

1. Gross Domestic Product (GDP): Gross Domestic Product (GDP) is the total market value of all final goods and services currently produced within the domestic territory of a country in a year.

Four things must be noted regarding this definition.

- First, it measures the market value of annual output of goods and services currently produced. This implies that GDP is a monetary measure.
- Secondly, for calculating GDP accurately, all goods and services produced in any given year must be counted only once so as to avoid double counting. So, GDP should include the value of only final goods and services and ignores the transactions involving intermediate goods.
- Thirdly, GDP includes only currently produced goods and services in a year. Market transactions involving goods produced in the previous periods such as old houses, old cars, factories built earlier are not included in GDP of the current year.
- Lastly, GDP refers to the value of goods and services produced within the domestic territory of a country by nationals or non-nationals.

2. Gross National Product (GNP): Gross National Product is the total market value of all final goods and services produced in a year. GNP includes net factor income from abroad whereas GDP does not. Therefore,

$$\text{GNP} = \text{GDP} + \text{Net factor income from abroad.}$$

Net factor income from abroad = factor income received by Indian nationals from abroad – factor income paid to foreign nationals working in India.

3. Net National Product (NNP) at Market Price: NNP is the market value of all final goods and services after providing for depreciation. That is, when charges for depreciation are deducted from the GNP we get NNP at market price. Therefore'

$$\text{NNP} = \text{GNP} - \text{Depreciation}$$

Depreciation is the consumption of fixed capital or fall in the value of fixed capital due to wear and tear.

4. Net National Product (NNP) at Factor Cost (National Income): NNP at factor cost or National Income is the sum of wages, rent, interest and profits paid to factors for their contribution to the production of goods and services in a year. It may be noted that:

$$\text{NNP at Factor Cost} = \text{NNP at Market Price} - \text{Indirect Taxes} + \text{Subsidies.}$$

5. Personal Income: Personal income is the sum of all incomes actually received by all individuals or households during a given year. In National Income there are some income, which is earned but not actually received by households such as Social Security contributions, corporate income taxes and undistributed profits. On the other hand there are income (transfer payment), which is received but not currently earned such as old age pensions, unemployment doles, relief payments, etc. Thus, in moving from national income to personal income we must subtract the incomes earned but not received and add incomes received but not currently earned. Therefore, Personal Income = National Income – Social Security contributions – corporate income taxes – undistributed corporate profits + transfer payments.

6. Disposable Income: From personal income if we deduct personal taxes like income taxes, personal property taxes etc. what remains is called disposable income. Thus,

$$\text{Disposable Income} = \text{Personal income} - \text{personal taxes.}$$

Disposable Income can either be consumed or saved. Therefore,

$$\text{Disposable Income} = \text{consumption} + \text{saving.}$$

Uses of National Income Accounting

The national income accounts have wide applications and serve as an effective tool of analysis. NI accounts are extremely useful in:

- Estimating national income of the country.
- Comparing national income of different countries.
- Describing and explaining the level of economic growth of a country.

- Estimating the contribution of each factor of production in the national income.
- Estimating the contribution of each sector in the national income.
- Planning especially for economically backward countries.
- Suggesting effective policies for altering the levels of production and employment.
- Implementing and testing economic theories or models that aim to explain or forecast economic behaviour.

MEASUREMENT OF NATIONAL INCOME

Production generate incomes which are again spent on goods and services produced. Therefore, national income can be measured by three methods:

1. Output or Production method
2. Income method, and
3. Expenditure method.

1. Output or Production Method: This method is also called the value-added method. This method approaches national income from the output side. Under this method, the economy is divided into different sectors such as agriculture, fishing, mining, construction, manufacturing, trade and commerce, transport, communication and other services. Then, the gross product is found out by adding up the net values of all the production that has taken place in these sectors during a given year.

In order to arrive at the net value of production of a given industry, intermediate goods purchase by the producers of this industry are deducted from the gross value of production of that industry. The aggregate or net values of production of all the industry and sectors of the economy plus the net factor income from abroad will give us the GNP. If we deduct depreciation from the GNP we get NNP at market price. NNP at market price – indirect tax

es + subsidies will give us NNP at factor cost or National Income.

The output method can be used where there exists a census of production for the year. The advantage of this method is that it reveals the contributions and relative importance and of the different sectors of the economy.

2. Income Method: This method approaches national income from the distribution side. According to this method, national income is obtained by summing up of the incomes of all individuals in the country. Thus, national income is calculated by adding up the rent of land, wages and salaries of employees, interest on capital, profits of entrepreneurs and income of self-employed people.

This method of estimating national income has the great advantage of indicating the distribution of national income among different income groups such as landlords, capitalists, workers, etc.

3. Expenditure Method: This method arrives at national income by adding up all the expenditure made on goods and services during a year. Thus, the national income is found by adding up the following types of expenditure by households, private business enterprises and the government: -

(a) Expenditure on consumer goods and services by individuals and households denoted by C. This is called personal consumption expenditure denoted by C.

(b) Expenditure by private business enterprises on capital goods and on making additions to inventories or stocks in a year. This is called gross domestic private investment denoted by I.

(c) Government's expenditure on goods and services i.e. government purchases denoted by G.

(d) Expenditure made by foreigners on goods and services of the national economy over and above what this economy spends on the output of the foreign countries i.e. exports – imports denoted by (X – M). Thus,

$$\mathbf{GDP = C + I + G + (X - M).}$$

Difficulties in the Measurement of National Income

There are many difficulties in measuring national income of a country accurately.

1. The first problem relates to the treatment of non-monetary transactions such as the services of housewives and farm output consumed at home. On this point, the general agreement seems to be to exclude the

services of housewives while including the value of farm output consumed at home in the estimates of national income.

2. The second difficulty arises with regard to the treatment of the government in national income accounts. On this point the general viewpoint is that as regards the administrative functions of the government like justice, administrative and defense are concerned they should be treated as giving rise to final consumption of such services by the community as a whole so that contribution of general government activities will be equal to the amount of wages and salaries paid by the government. Capital formation by the government is treated as the same as capital formation by any other enterprise.

3. The third major problem arises with regard to the treatment of income arising out of the foreign firm in a country. On this point, the IMF viewpoint is that production and income arising from an enterprise should be ascribed to the territory in which production takes place. However, profits earned by foreign companies are credited to the parent company.

Aggregate Demand and Supply

Definition of 'Aggregate Demand'

Aggregate demand (AD) is the total demand for goods and services produced in the economy over a period of time.

The total amount of goods and services demanded in the economy at a given overall price level and in a given time period. It is represented by the aggregate-demand curve, which describes the relationship between price levels and the quantity of output that firms are willing to provide.

Components of Aggregate demand:

$$\text{Aggregate Demand (AD)} = C + I + G + (X - M)$$

Where, C = Consumers' expenditures on goods and services.

I = Investment spending by companies on capital goods.

G = Government expenditures on publicly provided goods and services.

X = Exports of goods and services. M = Imports of goods and services.

The Aggregate Demand Curve

The aggregate-demand curve shows the quantity of goods and services that households, firms, and the government want to buy at each price level.

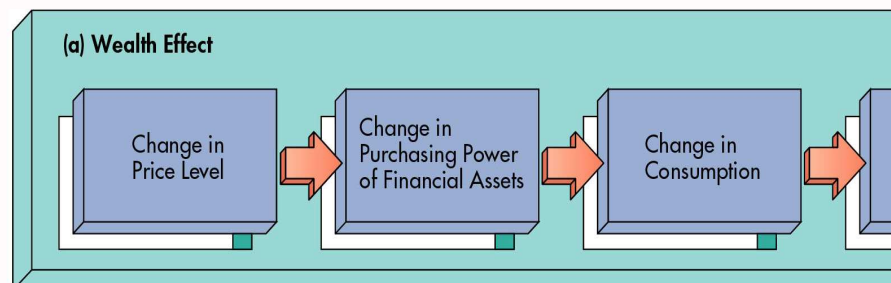


Figure 1 An aggregate demand curve

Why the Aggregate Demand Curve Slopes Downward

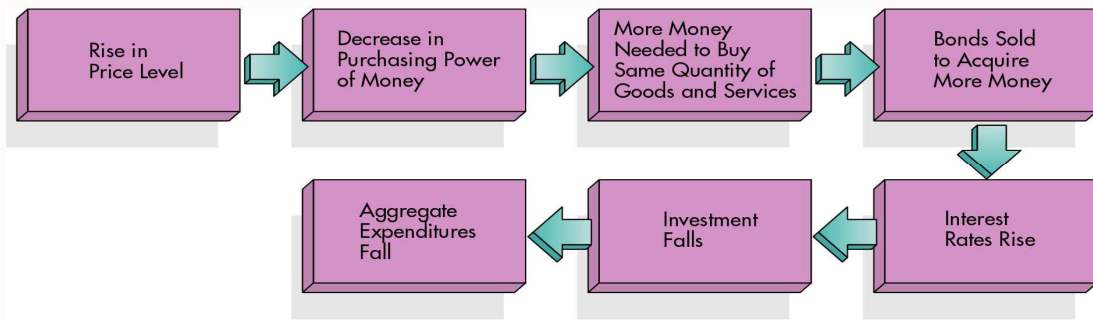
1. Wealth Effect (Real Wealth/Real Balances)
2. Interest Rate Effect
3. Mundell-Fleming's exchange-rate effect

The Wealth Effect:



This says that a rise in the price level will make people who have money and other financial assets feel poorer. They then buy less, and the opposite is true if the price level were to fall- people would buy more. If people feel poorer and since **consumption** is a part of AD, then aggregate expenditures will decrease, thus decreasing the quantity demanded.

• **The Interest Rate Effect:**



This says that as price increases, interest rates will increase causing investments to decrease. If prices are higher, then

people will have less money because they will be forced to spend more. If interest rates are higher, people will be less willing to put what little money they have into investments. Since **Investments** are part of the aggregate demand, the quantity of aggregate expenditures will go down, showing a negative relationship between price and aggregate expenditures.

• **The International Effect:**



This

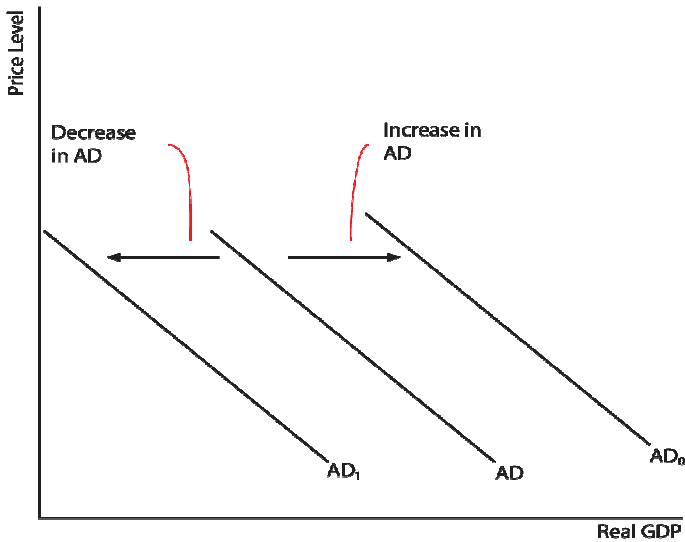
states that as the price of our goods go up **-and become more expensive to foreigners-** net exports will fall. In addition, imports will increase because foreign goods will seem cheaper than the goods at home whose prices have risen. Since **net exports** will fall and this is a part of AD, then overall aggregate expenditures will decrease.

Factors affecting Aggregate Demand

Aggregate Demand can increase or decrease depending on several things. In effect, these things will cause shifts up or down in the AD curve. These include:

- **Exchange Rates:** When a country's exchange rate increases, then net exports will decrease and aggregate expenditure will go down at all prices. This means that AD will decrease.
- **Distribution of Income:** This is directly related to wages and profits. When worker's real wages increase, then people will have more money on their hands because their overall income has increased. When this happens they tend to consume more causing the consumption expenditures to increase.
- **Expectations:** Consumers tend to have certain expectations about the future of the economy and will adjust their spending accordingly. If they would expect the economy to not do so well in the future, saving would increase thus decrease overall expenditures. Rising price levels will cause aggregate demand to increase. If consumers foresee the price level to rise in the near future, they might just go out and buy that good now, increasing the consumption expenditures in AD. Many different expectations have the capacity to increase or decrease aggregate demand and it is not always clear as to how this will happen.
- **Foreign Income:** This relates U.S. economic output with the income of its trading partners in the world. When foreign income rises, U.S. exports will increase causing aggregate demand to increase.
- **Monetary and Fiscal Policies:** The government has some ability to impact AD. They can spend money or increase taxes in order to influence how consumers spend or save. An expansionary fiscal policy causes AD to increase, while a Contractionary monetary policy causes AD to decrease.

Shifts in Aggregate Demand Curve



A right shift in aggregate demand is typically viewed as a good sign for the economy. Shifts to the left are typically viewed negatively.

Shifting AD to the Right

Increased consumer spending on domestic goods and services can shift AD to the right. It is possible that a declining marginal propensity to save can also shift AD to the right. Expansionary monetary and fiscal policy might increase aggregate demand. All of these effects are the inverse of the factors that tend to decrease aggregate demand.

Shifting AD to the Left

The aggregate demand curve tends to shift to the left when total consumer spending declines. Consumers might spend less because the cost of living is rising or because government taxes have increased. Consumers may decide to spend less and save more if they expect prices to rise in the future. It might be that consumer time preferences change and future consumption is valued more highly than present consumption.

Increase in AD	Decrease in AD
Households and firms have high expectations for the future growth	Households and firms have low expectations for the future growth
The government increases spending, or reduces taxes	The government reduces spending, or increases taxes
The federal reserve lowers interest rates	The federal reserve increases interest rates
More exports (weaker currency, or faster world GDP growth)	More imports or less exports (stronger currency or faster domestic GDP growth)

Reasons for Shift in AD:

- Shift arising from Changes in Consumption
- Shifts Arising from Changes in Investment
- Shifts Arising from Changes in Government Purchases
- Shifts Arising from Changes in Net Exports

Aggregate Supply

Aggregate Supply (AS) measures the volume of goods and services produced within the economy at a given overall price level. There is a positive relationship between AS and the general price level. Rising prices are a signal for businesses to expand production to meet a higher level of AD. An increase in demand should lead to an expansion of aggregate supply in the economy.

Definition of 'Aggregate Supply'

The total supply of goods and services produced within an economy at a given overall price level in a given time period. It is represented by the aggregate-supply curve, which describes the relationship between price levels and the quantity of output that firms are willing to provide.

A shift in aggregate supply can be attributed to a number of variables. These include changes in the size and quality of labor, technological innovations, increase in wages, increase in production costs, changes in producer taxes and subsidies, and changes in inflation.

Short-run aggregate supply (SRAS): Illustrates the relationship between the price level of a nation's output and the level of output produced in the fixed-wage and price period, which is the period of time following a change in aggregate demand over which workers' wages and prices are relatively inflexible. In the short run, aggregate supply responds to higher demand (and prices) by bringing more inputs into the production process and increasing utilization of current inputs.

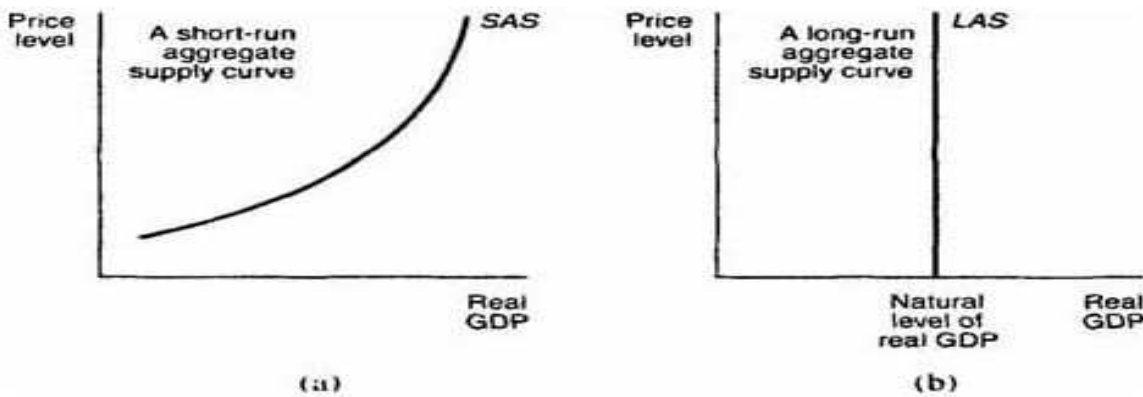


Figure 1 The aggregate supply curve

Short-run Aggregate Supply Curve

i) Why the Aggregate-Supply Curve Slopes Upward in the Short-Run

The quantity of output supplied deviates from its long-run or "natural", level when the price level deviates from the price level that people expect to prevail.

(1) **Sticky-Wage Theory** Short-run aggregate-supply curve slopes upward because nominal wages are slow to adjust, or are "sticky" in the short-run. To some extent, the slow adjustment of nominal wages is attributable to long-term contracts between workers and firms that fix nominal wages. Because wages do not adjust immediately to the price level, a lower price level makes employment and production less profitable, so firms reduce the quantity of goods and services they supply.

(2) **Sticky-Price Theory** Short-run aggregate-supply curve slopes upward because the prices of some goods and services are slow to adjust, or are "sticky" in the short-run. To some extent, the slow adjustment the prices of some goods and services because they are costs to adjusting prices menu costs. is attributable to long-term contracts between workers and firms that fix nominal wages. Because not all prices adjust instantly to changing conditions, an unexpected fall in the price level leaves some firms with higher-than-desired prices, and these higher-than-desired prices depress sales and induce firms to reduce the quantity of goods and services they produce.

(3) **The Misperception Theory** Changes in the overall price level can temporarily mislead suppliers about what is happening in the individual markets in which they sell their output. They mistakenly believe that their relative prices have fallen. Example: workers may notice a fall in their nominal wages before they notice a fall in the prices of the goods they buy. They may infer that the reward to working is temporarily low and respond by reducing the quantity of labor they supply. A lower price level causes misperceptions about relative prices, and these misperceptions induce suppliers to respond to the lower price level by decreasing the quantity of goods and services supplied.

ii) Why the Short Run Aggregate-Supply Curve may Shift?

An increase in the expected price level reduces the quantity of goods and services supplied and shifts the aggregate supply curve to the left. A decrease in the expected price level raises the quantity of goods and services supplied and shifts the short-run aggregate-supply curve to the right.

In the short-run, expectations are fixed, and the economy finds itself at the intersection of the aggregate-demand curve and the short-run aggregate supply curve.

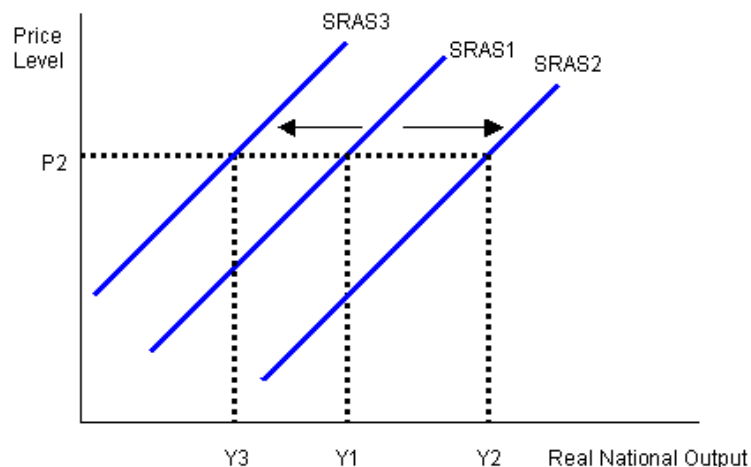
In the long-run, expectations adjust, and the short-run aggregate-supply curve shifts. This shift ensures the economy eventually finds itself at the intersection of the aggregate-demand curve and long-run aggregate-supply curve.

Short-run fluctuations in output and the price level should be viewed as deviations from the continuing long-run trends.

In the long run, the aggregate supply curve is vertical, whereas in the short run ,it slopes upward.

Shifts in the AS curve can be caused by the following factors:

- changes in size & quality of the labour force available for production
- changes in size & quality of capital stock through investment
- technological progress and the impact of innovation
- changes in factor productivity of both labour and capital
- changes in unit wage costs (wage costs per unit of output)
- changes in producer taxes and subsidies
- changes in inflation expectations - a rise in inflation expectations is likely to boost wage levels and cause AS to shift inwards



In the diagram above - the shift from AS1 to AS2 shows an increase in aggregate supply at each price level might have been caused by improvements in technology and productivity or the effects of an increase in the active labour force.

An inward shift in AS (from AS1 to AS3) causes a fall in supply at each price level. This might have been caused by higher unit wage costs, a fall in capital investment spending (capital scrapping) or a decline in the labour force.

Long-run aggregate supply (LRAS): Illustrates the relationship between the price level and the level of output in the flexible-wage and price period, which is the period of time following a change in aggregate demand over which all wages and prices in the economy can adjust to the level of demand. In the long run, however, aggregate supply is not affected by the price level and is driven only by improvements in productivity and efficiency.

Why the Aggregate-Supply Curve is Vertical in the Long Run

In the long run, an economy's production of goods and services (its real GDP) depends on its suppliers of labor, capital, and natural resources and on the available technology used to turn these factors of production into goods and services. The quantity supplied is the same regardless of what the price level happens to be. Just an

application of the classical dichotomy and monetary neutrality. This implies that the quantity of output(a real variable) does not depend on the level of prices (a nominal variable).

They supply of specific goods and services depends on relative prices – the prices of those goods and services compared to other prices in the economy. By contrast, the economy's overall production of goods and services is limited by its labor, capital, natural resources, and technology.

Thus when, all prices in the economy rise together, there is no change in the overall quantity of goods and services supplied.

i) Why the Long-run Aggregate-Supply Curve Might Shift

The position of the long-run aggregate-supply curve shows the quantity of goods and services predicted by classical macroeconomic theory. This level of production is sometimes called *potential output* or *full-employment output*. We call it the *natural rate of output* because it shows what the economy produces when *unemployment is at its natural*, or normal rate. The *natural rate of output* is the level of production toward which the economy gravitates in the long run.

(1) **Shifts Arising from Labor** Any event that changes labor supply or the natural rate of unemployment. Example: Migration from abroad of workers. A substantial increase in the natural rate of unemployment.

(2) **Shifts Arising from Capital:** Any event that changes physical and human capital. Example: An increase in the number of machines or in the number of college degrees.

(3) **Shifts Arising from Natural Resources:** An economy's production depends on its natural resources, including its land, minerals and weather. Or its importing of natural resources Example: Mineral deposits, the weather. Importing of Oil

(4) **Shifts Arising from Technological Knowledge:** Any event that changes technological progress. Example: Technological breakthroughs.

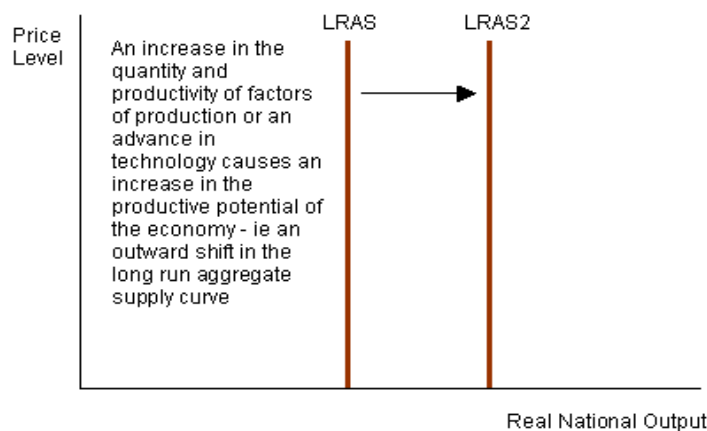
LONG RUN AGGREGATE SUPPLY

Long run aggregate supply is determined by the productive resources available to meet demand and by the productivity of factor inputs (labour, land and capital).

In the short run, producers respond to higher demand (and prices) by bringing more inputs into the production process and increasing the utilization of their existing inputs. Supply does respond to change in price in the short run.

In the long run we assume that supply is independent of the price level (money is neutral) - the productive potential of an economy (measured by LRAS) is driven by improvements in productivity and by an expansion of the available factor inputs (more firms, a bigger capital stock, an expanding active labour force etc). As a result we draw the long run aggregate supply curve as vertical.

Improvements in productivity and efficiency cause the long-run aggregate supply curve to shift out over the years. This is shown in the diagram below



Macro-Economic Equilibrium

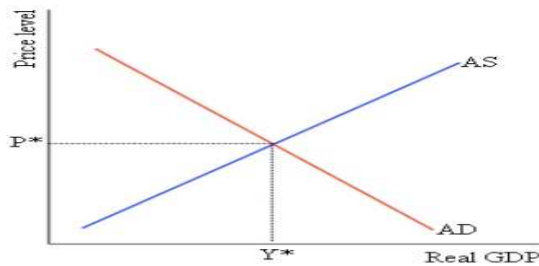
Macroeconomic equilibrium is an economic state in an economy where the quantity of aggregate demand equals the quantity of aggregate supply. The point at which either AD intersects SAS or AD intersects LAS is called the **equilibrium point**.

- Short-Run Equilibrium
- Long-Run Equilibrium

Short run Macroeconomic Equilibrium

Short-run macroeconomic equilibrium occurs (geometrically) **at the intersection of the short-run aggregate supply curve (SAS) and the aggregate demand curve (AD)**. This intersection indicates the price level at which the aggregate quantity of final goods and services supplied in the economy is equal to the aggregate quantity demanded, and indicates as well the corresponding level of real GDP.

SHORT-RUN MACROECONOMIC EQUILIBRIUM



This intersection indicates the price level at which the aggregate quantity of final goods and services supplied in the economy is equal to the aggregate quantity demanded, and indicates as well the corresponding level of real GDP

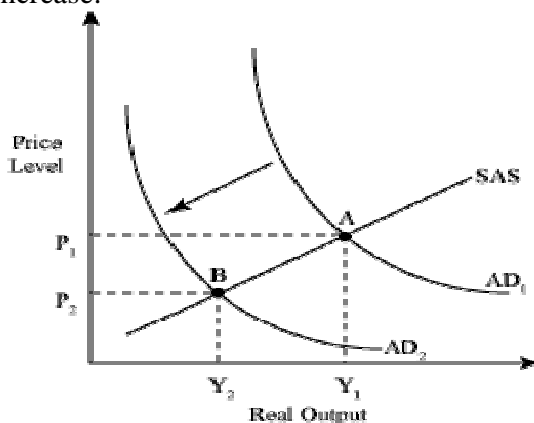
To see that this point of intersection is an equilibrium point, consider first a situation where the price level is below that corresponding to the short-run equilibrium. At this price level, the quantity of real GDP that will be supplied by firms will be less than the quantity of real GDP that will be demanded by households, business firms, government, and net foreign demand. With firms unable to meet demand, inventories decline and back orders become the rule. In order to meet the strong demand, firms will begin to increase production; and in so doing will incur additional resource costs that will result in price increases (i.e., there will be a movement up along the SAS curve). As prices increase, this will lead to a moderating of demand (movement up along the AD curve). These movements will continue until quantity supplied equals quantity demanded -- at the point of intersection of the SAS and AD curves.

Shifts in Aggregate demand

The equilibrium in the short-run is shown by the **intersection** of the Aggregate Demand (AD) curve and the Short-Run Aggregate Supply (SAS) curve. When either AD or SAS shifts, the equilibrium point is changed.

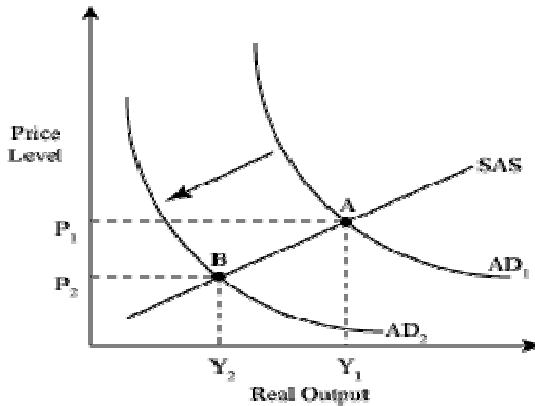
Increase in Aggregate Demand:

A shift to the right of the AD curve will cause the equilibrium output as well as the price level to increase.



Decrease in aggregate Demand:

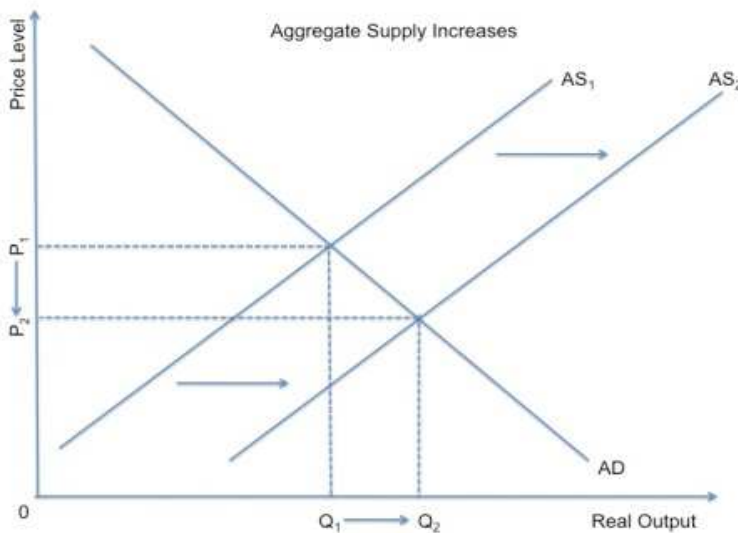
If the AD curve were to shift to the left, the opposite would be true: output and price level will decrease.



Shifts in Aggregate Supply

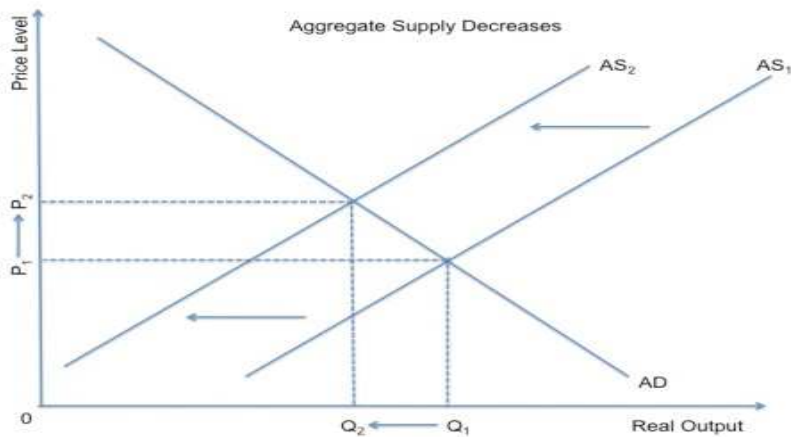
When either AD or SAS shifts, the equilibrium point is changed.

Increase in Aggregate supply:



A shift to the right will decrease price level and increase output.

Decrease in Aggregate supply:

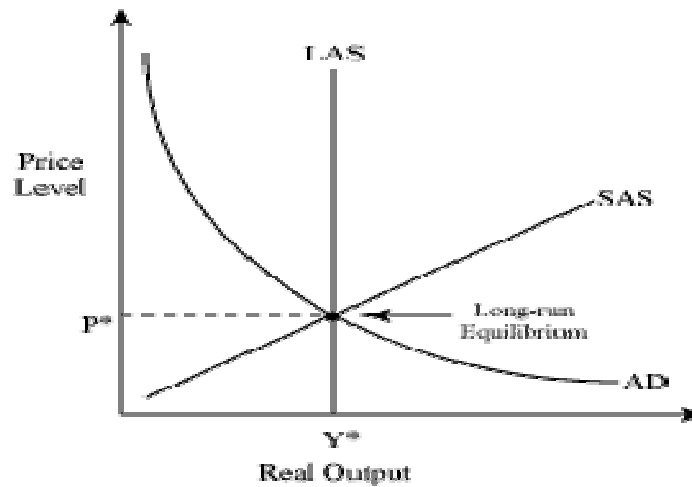


A shift to the left in SAS will cause AS to decrease and the price level to rise while equilibrium output will decrease

Long-Run Equilibrium

The equilibrium in the long-run is shown by the **intersection** of the AD curve, the SAS curve, and the Long-Run Aggregate Supply (LAS) curve. Since LAS represents potential output, a shift in the AD curve will only result in a change in price level: a shift to the right increasing price level and a shift to

the left decreasing price level. If an economy is said to be in long-run equilibrium, then Real GDP is at its potential output, the actual unemployment rate will equal the natural rate of unemployment (about 6%), and the actual price level will equal the anticipated price level.



Say's Law

Say's Law states that supply will create its own demand. This idea came about in a time where many economists were noting economic downturns which today we call recessions. This idea suggests that people work and supply to the markets because there is a demand for goods of equal value. According to this law, aggregate demand will always equal aggregate supply.

Aggregate Supply

MULTIPLIER EFFECT

An initial change in aggregate demand can have a much greater final impact on the level of equilibrium national income. This is known as the multiplier effect

What is a simple definition of the multiplier?

It is the number of times a rise in national income exceeds the rise in injections of demand that caused it

Describing the multiplier process

It comes about because injections of new demand for goods and services into the circular flow of income stimulate further rounds of spending – in other words “one person’s spending is another’s income”

This can lead to a bigger eventual effect on output and employment

The Multiplier Effect Process

If asked to do so, explain the **process** that lies behind the multiplier effect – focusing on the extra demand and incomes created



The government injects £200m in a project to build thousands of affordable new houses

A new house building project injects £200m of extra demand and output into the economy

Many businesses benefit directly including building supply industries, architects etc.

Building new houses generates a **new flow of factor incomes** – including wages and profits

Will the extra income stay inside the **circular flow of income and spending**?

If so, the **multiplier effect** is likely to be strong and the resultant impact on GDP quite large

How does Multiplier works?

1. An injection occurs in the economy, such as an increase in government spending.
2. The injection increases the aggregate demand in the economy for goods and services.
3. The increase in demand for goods and services causes firms to employ more workers and expand output.
4. As firms are employing more workers, more people have disposable incomes and subsequently the aggregate demand increases in the economy.
5. The increases in aggregate demand causes firms to employ more workers and the effect continues as before.

The value of the multiplier depends on:

- Propensity to import
 - Propensity to save
 - Propensity to tax
 - Amount of spare capacity
 - Avoiding crowding out
- The higher is the **propensity to consume** domestically produced goods and services, the greater is the multiplier effect. The government can influence the size of the multiplier through changes in direct taxes. For example, a cut in the rate of income tax will increase the amount of extra income that can be spent on further goods and services
- Another factor affecting the size of the multiplier effect is the **propensity to purchase imports**. If, out of extra income, people spend their money on imports, this demand is not passed on in the form of fresh spending on domestically produced output. It leaks away from the circular flow of income and spending, reducing the size of the multiplier.
- The multiplier process also requires that there is **sufficient spare capacity** for extra output to be produced. If **short-run aggregate supply is inelastic**, the full multiplier effect is unlikely to occur,

because increases in AD will lead to higher prices rather than a full increase in real national output. In contrast, when SRAS is perfectly elastic a rise in aggregate demand causes a large increase in national output.

- **Crowding out** – this is where (for example) increased government spending or lower taxes can lead to a rise in government borrowing and/or inflation which causes interest rates to rise and has the effect of slowing down economic activity.

In short – the multiplier effect will be larger when

1. The propensity to spend extra income on domestic goods and services is high
2. The marginal rate of tax on extra income is low
3. The propensity to spend extra income rather than save is high
4. Consumer confidence is high (this affects willingness to spend gains in income)
5. Businesses in the economy have the capacity to expand production to meet increases in demand

Types of Multiplier

Money Multiplier

- **The Money Multiplier** refers to the amount that commercial banks can increase the supply of money in an economy. This is calculated by:
- Increase in money supply / Increase in monetary base that caused it
- A monetary base and an economy's money supply as a mathematical relationship. It explains increased cash amounts in circulation caused by the banks' use of their depositors' funds to lend money.

$$\text{money multiplier} = \frac{1}{\text{reserve requirement}}$$

Government Expenditure Multiplier

The government expenditure multiplier is the effect of a change in government expenditure on goods and services on aggregate demand. An increase in aggregate expenditure increases aggregate demand, which increases real GDP. The increase in real GDP induces an increase in consumption expenditure, which further increases aggregate demand

The Tax Multiplier The tax multiplier is the effect of a change in taxes on aggregate demand. A decrease in taxes increases disposable income. The increase in disposable income increases consumption expenditure and aggregate demand. With increased aggregate demand, employment and real GDP increase and consumption expenditure increases yet further.

The Balanced Budget Multiplier The balanced budget multiplier is the effect on aggregate demand of a simultaneous change in government expenditure and taxes that leaves the budget balance unchanged. The balanced budget multiplier is not zero—it is positive—because the government expenditure multiplier is larger than the tax multiplier

The ratio of change in the equilibrium level of output to a change in government spending where the change in government spending is balanced by a change in taxes so as not to create any deficit.

$$\text{The balanced-budget multiplier} = 1$$

The change in Y resulting from the change in G and the equal change in T are exactly the same size as the initial change in G or T.

Demand side management

- Demand-side Economics is an economic theory which suggest that economic stimulation comes best from increasing the demand for goods and services. Also called Keynesian Economics.

Demand Side Policies

Fiscal Policy

Is a tool the government can use to regulate the economy through its expenditure and raising of revenue through taxation.

Monetary Policy

Is the tool used by the government to control the economy by controlling money and the banking system
(interest rates)



Legislation (laws)

Is a tool the government can use to control the economy by setting limits and expectations on behaviour. Usually to minimise the negative effects of growth.

Demand Side Policies related to growth? Fiscal Policy - Introduction

- ◉ **Fiscal measures for growth include**
 - > Specific spending priorities, putting money into areas which the government believes will promote economic growth.
 - > Influencing the size of the circular flow with the size of the government budget.
 - > Targeting taxation and subsidies.
- ◉ Specific spending priorities are determined by government, in areas where it believes the private sector does not supply adequate quantity or quality of goods or services.



Shown as G , T , Tr in the circular flow model to either inject or withdrawal money from the flow.

Monetary Policy

- ⦿ This are the decisions, guided by the government to change interest rates to influence the rate of economic growth.
- ⦿ Remember
 - > **Increase in interest rates**, increases savings, withdrawals money from circular flow. Slows economic growth. Also decreases rate of investment in capital assets.
 - > **Decrease in interest rates**, decreases savings, increases consumer spending. Increases economic growth. Also increase rate of investment.

Government Policies related to growth? Monetary Policy

- ⦿ **Monetary policy** is controlled by the Central Reserve Bank. It aims to achieve price stability by influencing the interest rate.
- ⦿ The government does not control interest rates, as the Reserve Bank is an independent authority.
- ⦿ **Decreasing interest rates can stimulate spending**
- ⦿ **Increasing interest rates can encourage savings.**
- ⦿ Monetary Policy has flow on effects to the Foreign Exchange market, leading to either an appreciation or depreciation of the Domestic Currency

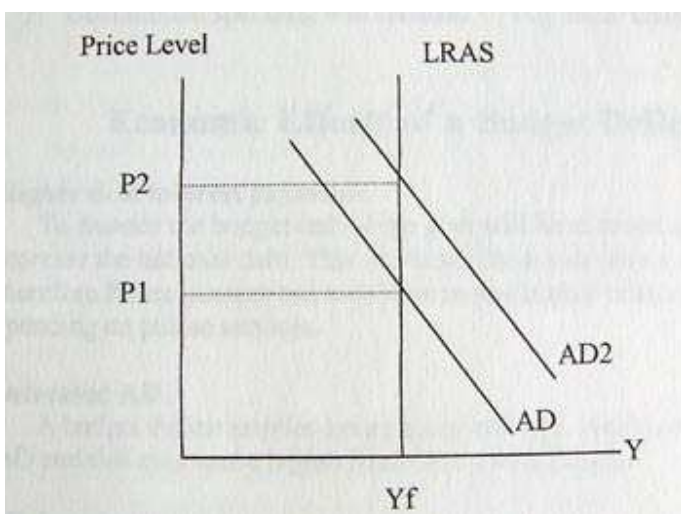


Influences either S, C, I in the circular flow model to either inject or withdrawal money from the flow – changes in economic growth.

Discuss whether demand side policies will be successful in reducing unemployment.

1. Demand side policies include expansionary fiscal and monetary policies.

2. For example the govt could increase Govt spending and lower taxes. G is a component of AD therefore this will cause AD to increase, there may also be a multiplier effect causing AD to increase even more than the initial effect
3. Lower tax rates will increase consumer's disposable income and therefore spending will increase.
4. Also the MPC could cut interest rates, this makes borrowing cheaper and encourages spending rather than saving, this will also have the effect of increasing AD
5. The above diagram shows an increase in AD causing higher real GDP and a higher price level. Note there will only be an increase in real GDP if there is spare capacity in the economy.
6. If real GDP increases then there will be higher demand for workers, as firms need to increase production to meet demand. Therefore, unemployment will fall.
7. The Phillips curve shows the trade off between unemployment and inflation, as demand is increased there is lower unemployment with a trade off of higher inflation.
8. However classical economists disagree with this Keynesian analysis they argue that the $LRAS$ is inelastic therefore an increase in AD will not cause a rise in Real GDP.



8. This diagram shows that an increase in AD will cause an increase in Real GDP in the short run. However as prices increase firms face an increase in their wage bill so the $SRAS$ shifts to the left. This causes Real GDP to return to its original level of output. Therefore any fall in unemployment will only be temporary according to classical economists.

9. Therefore they believe there is no trade off as the Phillips Curve suggests. This Monetarist view gained credence in the 1970s when there appeared to be a breakdown in the relationship between inflation and unemployment

10. It is also possible that demand side policies fail to increase AD , in the Great Depression (and in Japan in the 1990s) cuts in taxes did not increase AD because consumer confidence was very low. Therefore fiscal policy failed to reduce unemployment.

11. Cyclical unemployment is only one cause of unemployment. Other types of unemployment include Real Wage or (classical unemployment) this occurs when trades unions force wages above the equilibrium reducing demand for labour

12. The Natural rate of unemployment refers to the supply side factors such as structural and frictional unemployment. this type of unemployment will occur even when the economy is at full output. Therefore these types of unemployment will not be reduced by demand side factors Classical economists argue that all unemployment is due to supply side factors such as

Demand side policies can only reduce cyclical unemployment, which will occur during a recession. Classical economists argue that this will only last a short time and the markets will clear of their own accord. However, in practice this often doesn't occur. Govt intervention can shorten a recession and therefore reduce unemployment. Nevertheless it will also be important for the govt to tackle different types of unemployment with supply side policies.

FISCAL POLICY

Definition

- The fiscal policy is concerned with the raising of government revenue and incurring of government expenditure. To generate revenue and to incur expenditure
- To generate revenue and to incur expenditure, the government frames a policy called **budgetary policy or fiscal policy**. So, the fiscal policy is concerned with government expenditure and government revenue
- Fiscal policy has to decide on the size and **pattern of flow of expenditure from the government to the economy and from the economy back to the government**.

In broad term fiscal policy refers to "that segment of national economic policy which is primarily concerned with the receipts and expenditure of central government

Objectives of Fiscal Policy

The following are some of the important objectives of fiscal policy

The principal objective of fiscal policy is to ensure rapid economic growth and development. This objective of economic growth and development can be achieved by Mobilization of Financial Resources

The central and the state governments in India have used fiscal policy to mobilize resources.

1. Mobilization of financial resources

- Taxation: Through effective fiscal policies, the government aims to mobilize resources by way of direct taxes as well as indirect taxes because most important source of resource mobilization in India is taxation.
- Public Savings : The resources can be mobilized through public savings by reducing government expenditure and increasing surpluses of public sector enterprises
- Private Savings : Through effective fiscal measures such as tax benefits, the government can raise resources from private sector and households

2. Efficient allocation of Financial Resources

- The central and state governments have tried to make efficient allocation of financial resources.
- These resources are allocated for Development Activities which includes expenditure on railways, infrastructure, etc
- But generally the fiscal policy should ensure that the resources are allocated for generation of goods and services which are socially desirable.
- India's fiscal policy is designed in such a manner so as to encourage production of desirable goods and discourage those goods which are socially undesirable.

3. Reduction in inequalities of Income and Wealth

- Fiscal policy aims at achieving equity or social justice by reducing income inequalities among different sections of the society. The direct taxes such as income tax are charged more on the rich people as compared to lower income groups
- Indirect taxes are also more in the case of semi-luxury and luxury items, which are mostly consumed by the upper middle class and the upper class

4. Price Stability and Control of Inflation

One of the main objectives of fiscal policy is to control inflation and stabilize price. Therefore, the government always aims to control the inflation by Reducing fiscal deficits, introducing tax savings schemes, Productive use of financial resources, etc

5. Employment Generation:

One of the important objectives of fiscal policy in a developing country is to increase the employment was regarded as the most important objective. The government through her fiscal policy can help in creating and promoting an atmosphere where people may get employment opportunities.

6. Capital Formation

- The objective of fiscal policy in India is also to increase the rate of capital formation so as to accelerate the rate of economic growth
- In order to increase the rate of capital formation, the fiscal policy must be efficiently designed to encourage savings and discourage and reduce spending

7. Development of Infrastructure :

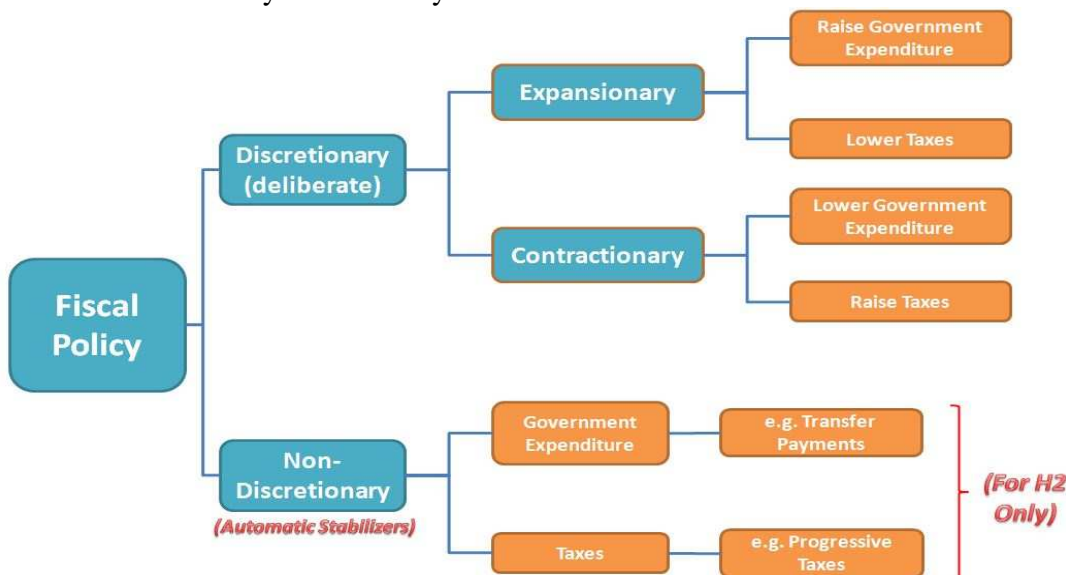
Government has placed emphasis on the infrastructure development for the purpose of achieving economic growth. The fiscal policy measure such as taxation generates revenue to the government. A part of the government's revenue is invested in the infrastructure development. Due to this, all sectors of the economy get a boost

8. Increasing the National Income

- The fiscal policy aims to increase the national income of a country.
- This is because fiscal policy facilitates the capital formation.
- This results in economic growth, which in turn increases the GDP, per capita income and national income of the country.

Types of Fiscal policy:

- Expansionary Fiscal Policy
- Contractionary Fiscal Policy

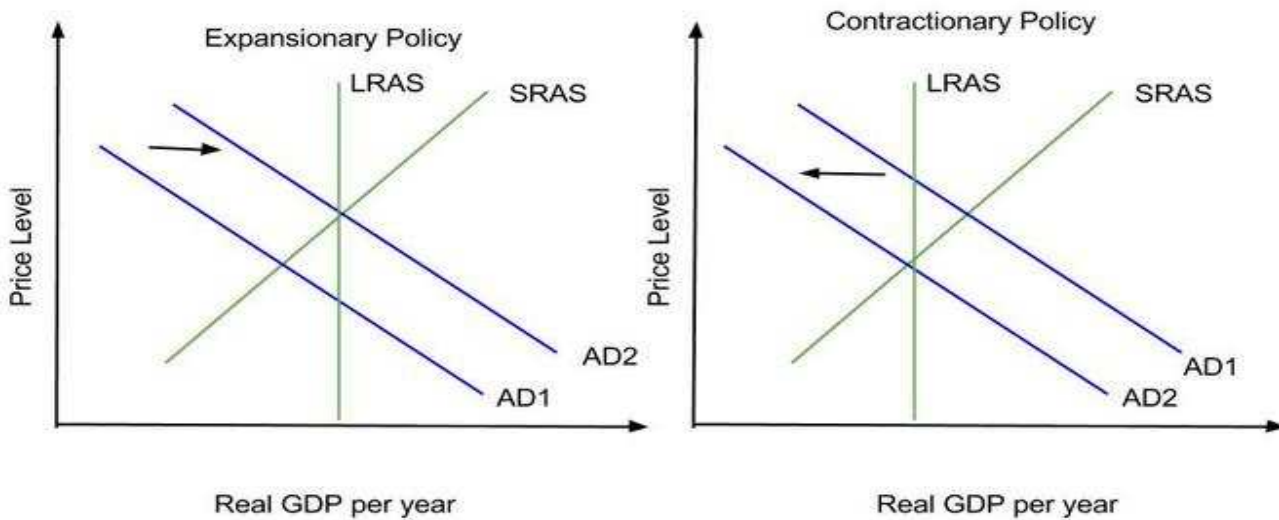


Expansionary Fiscal Policy:

When an economy is operating below its potential output, the Keynesian model suggests that the government should institute *expansionary fiscal policy*, by increasing the government’s purchases of goods & services and cutting taxes.

- This involves increasing AD.

- Therefore the government will increase spending (G) and / or cut taxes (T). Lower taxes will increase consumers spending because they have more disposable income (C)
- This will tend worsen the government budget deficit and the government will need to increase borrowing.



Contractionary Fiscal Policy:

Contractionary fiscal policy is defined as a decrease in government expenditures, an increase in taxes, or a decrease in government expenditures and an increase in taxes, which causes the government's budget deficit to decrease and its budget surplus to increase.

- This involves decreasing AD.
- Therefore the government will cut government spending (G) and / or increase taxes. Higher taxes will reduce consumer spending (C)
- Tight fiscal policy will tend to cause an improvement in the government budget deficit.

Techniques of fiscal policy:

The following are the four important techniques of fiscal policy of India:

1. Public expenditure policy:

Public expenditure influences the economic activities of a country very much. It can be of 2 types i.e. developmental and non-developmental. Developmental expenditure is of great importance to the economic growth of the country. It requires huge amount of capital. So much capital cannot be made available by private sector alone. It requires increase in public expenditure. Public expenditure may be made in the following ways:

a) Development of public enterprises:

Underdeveloped countries lack basic and heavy industries. Establishment of these industries requires huge capital investment. They involve great deal of risk. Also private sector cannot set up these industries because of more risk and huge capital investment.

b) Support to Private Sector:

In order to accelerate the rate of economic growth in the country, government should encourage private sector. For this government gives various subsidies, concessional loans etc.

c) Development of infrastructure:

Government spends huge amount for development of infrastructure, which is must for economic development of any nation. Infrastructure of a country mainly includes power projects, railways, roads, airports, hospitals, dams, etc.

d) Social Welfare:

Government spends huge amount on public health, education, safedrinking water, sanitation, welfare of weaker sections of society, etc.

2. Taxation Policy:

Taxes are the main sources of revenue of government. Government levies both direct and indirect taxes in India. Direct taxes are those that are paid directly by the assessee to the government e.g.: income tax, wealth tax etc. Indirect taxes are paid indirectly by the public to the government, i.e., these taxes are charged by trader/manufacturer from the public and then paid to the government e.g., excise duty, custom duty, VAT, etc. Main objectives of taxation policy in India are as follows:

a) Mobilization of Resources:

Taxes are the major sources of government revenue. Tax revenue in India has been rising every year. Government mobilizes resources through taxation for economic development.

b) To promote savings: One of the important objectives of taxation policy is to promote savings. For this purpose various tax concessions, tax deductions are given on savings e.g.:savings in provident funds, savings in national saving certificate, etc.

c) To promote Investment: To promote investment in remote and backward areas, rural areas, various tax rebates, tax concessions, tax deductions are given for investment in these areas.

d) To bring Equality of Income and Wealth: To achieve this objective different kinds of progressive direct taxes are levied e.g.: income tax, wealth tax, etc., rate of tax is increase with the increase in income.

3. Public Debt Policy:

Government needs lot of funds for the economic development of country. No government can mobilize so many funds by way of taxes alone. Public debt is obtained from 2 kinds of sources

a) Internal debt: It should be mobilized in a manner that it has no adverse effect on private investment. It is more beneficial to collect small savings as it encourages the people to save more.

b) External debt: When funds are borrowed from abroad it is called external debt. The main advantage of this is that foreign loans are received in foreign currency.

4. Deficit Financing: It refers to financing the budgetary deficit. Budgetary deficit here means excess of government expenditure over government income. Deficit financing in India means, “Taking loans from RBI by the government to meet the budgetary deficit”. RBI gives this loan by issuing new currency notes. Consequently, money supply increases. Increase in money supply leads to fall in the value of money. Fall in the value of money in turn leads to increase in price level. So deficit financing should be kept as low as possible as it leads to price rise in the economy.

Advantages & Disadvantages Fiscal Policy:

Advantages	Disadvantages
If use Government spending, can direct spending towards areas in need (e.g. infrastructure, education, etc.), and make investments for the future.	Knowledge problems (regarding the current state of the economy; regarding the amount of an expansion or contraction needed, etc.)
Using a balanced budget can provide a stimulus without adding to the government budget deficit.	Government budget deficits (though there’s disagreement regarding the extent to which deficits are a problem)
While fiscal policy may lead to government deficits/debt, we should look at debt/GDP ratio. As only as GDP grows, it can bring down the debt/GDP ratio.	Time lags (particularly on the front end of the process)
Can use “green” taxes to discourage polluting activities.	Some crowding out (extent depends on how close the economy is to full employment)
	Tax rebates may be spent on imports, thus leaking out of the circular flow.

	Actions of state and local governments may counteract the federal fiscal stimulus (or contraction).
	Growing the GDP to bring down the debt/GDP ratio can compromise environmental sustainability.
	What if we have stagnation + inflation? Could exacerbate inflation

EAB : Unit-V

Aggregate Supply and the Role of Money

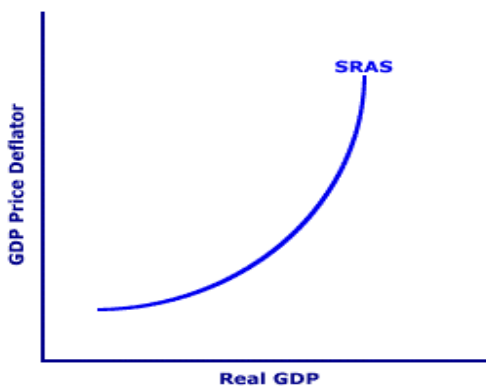
Short-run and Long-run supply curve – Unemployment and its impact – Okun’s law – Inflation and the impact – reasons for inflation – Demand Vs Supply factors – Inflation Vs Unemployment tradeoff – Phillips curve – short- run and long-run – Supply side Policy and management- Money market- Demand and supply of money – money-market equilibrium and national income – the role of monetary policy.

A definition of aggregate supply

Aggregate supply (AS) measures the volume of goods and services produced within the economy at a given price level. In simple terms, aggregate supply represents the ability of an economy to produce goods and services either in the short-term or in the long-term. It tells us the quantity of real GDP that will be supplied at various price levels. The nature of this relationship will differ between the long run and the short run

- **In the long run**, the aggregate-supply curve is assumed to be vertical
- **In the short run**, the aggregate-supply curve is assumed to be upward sloping

Short run aggregate supply (SRAS) shows total planned output when prices in the economy can change but the prices and productivity of all factor inputs e.g. wage rates and the state of technology are assumed to be held constant.

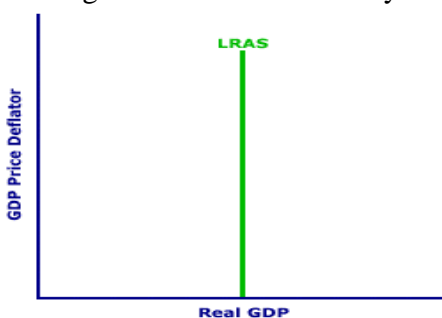


The short run is characterized by inflexible prices and disequilibrium in resource markets, either surplus or shortage. This means that resources, especially labor, have either cyclical unemployment or over employment. Inflexible prices mean that real production is responsive to the price level. A higher price level induces an increase in real production, as employment increases, and a lower price level induces a decrease in real production, as employment decreases. As a result, the short-run aggregate supply curve is positively sloped

Long run aggregate supply (LRAS): In the long run all prices are flexible. Price flexibility ensures that all markets are in equilibrium.

Prices rise to eliminate market shortages and fall to eliminate market surpluses. The end result is equilibrium--FOR ALL MARKETS. This conclusion is particularly important for resource markets, especially labor. No surplus in the labor market, means that no workers are seeking jobs that do not exist. There is no cyclical unemployment. And no cyclical unemployment means full employment. The long run is characterized by both flexible prices and full employment.

The long run is characterized by flexible prices and equilibrium in production, financial, and resource markets.



This means that resources, especially labor, have full employment. Flexible prices mean that full employment is achieved and maintained, regardless of the price level. **As a result, the long-run aggregate supply curve is vertical at the quantity of real production generated at full employment.**

Determinants of Aggregate supply:

Changes in any of the aggregate supply determinants cause the short-run and/or long-run aggregate supply curves to shift.

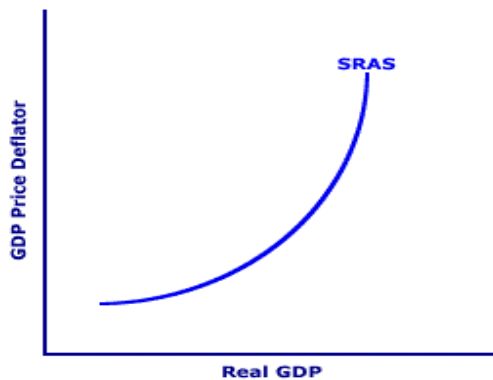
- (1) **Resource quantity**--the amounts of labor, capital, land, and entrepreneurship available,
- (2) **Resource quality**--the productivity of the four factors of production, and
- (3) **Resource price**--the prices of the inputs used in production.

- 1. Resource Quantity:** The first major determinant is the quantity of resources--labor, capital, land, and entrepreneurship--that the economy has available for production. This determinant causes shifts of both the SRAS and LRAS curves. Quite simply, if the economy has more resources, then aggregate supply increases and both aggregate supply curves shift rightward. With fewer resources, aggregate supply decreases and both curves shift leftward.
- 2. Resource Quality:** The second major determinant of the aggregate supply curves is the quality of resources. If the quality of labor, capital, land, and entrepreneurship changes, then the SRAS and LRAS curves shift. An improved quality increases aggregate supply and a decline in quality decreases aggregate supply.
- 3. Resource Price:** The third major aggregate supply determinant is resource price. The prices of resource affect the cost of producing output and thus the price level charged for an existing quantity of real production. This determinant **ONLY** affects the short-run aggregate supply. Because the long-run aggregate supply is independent of the price level it is also unaffected by changes in resource prices and production cost.

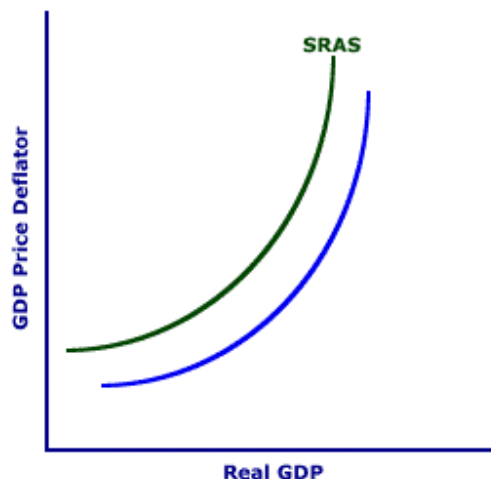
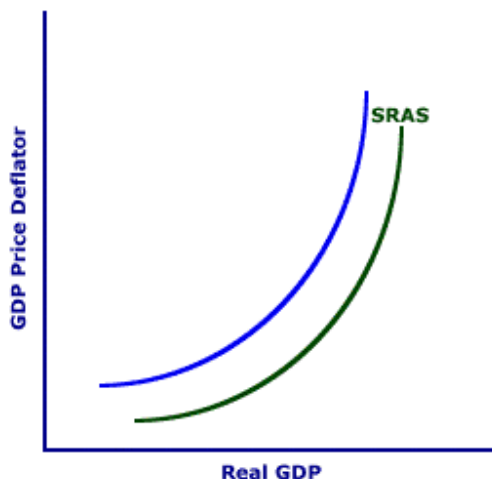
Short run and long run supply curve:

The aggregate supply determinants shift the short-run aggregate supply curve, abbreviated SRAS, and the long-run aggregate supply curve, abbreviated LRAS.

The short-run aggregate supply curve is positively sloped and captures the specific one-to-one relationship between the *price level* and real production

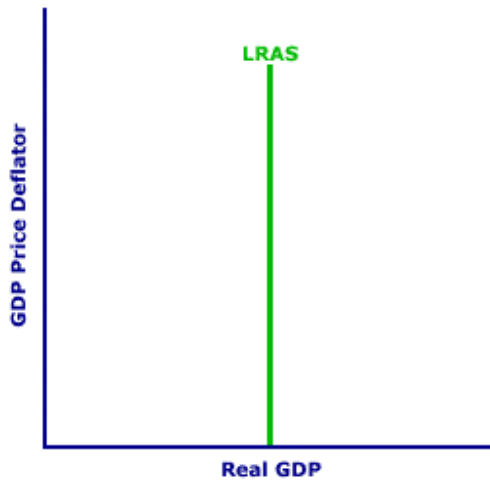


Shifting the Aggregate Supply Curves: Consider first the short-run aggregate supply curve. An increase in short-run aggregate supply is illustrated by a rightward shift in the SRAS curve. A decrease in short-run aggregate supply is illustrated by a leftward shift

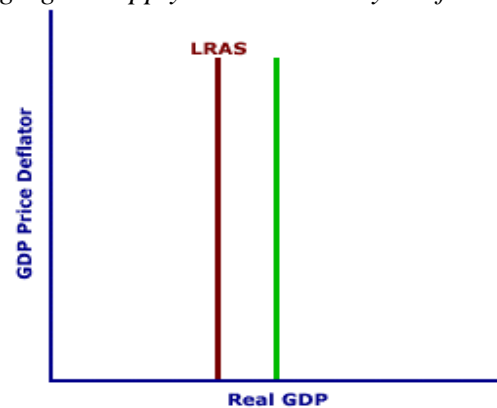
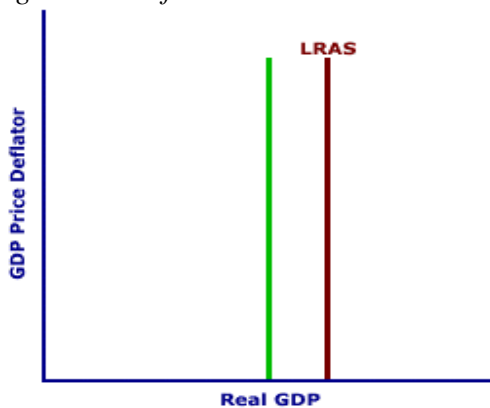


Shifts in the Long run supply curve:

The long-run aggregate supply curve is vertical at the full-employment level of production, indicating that real production is independent of the price level.



Shifts in Long-Run Aggregate Supply: An increase in long-run aggregate supply is illustrated by a rightward shift in the LRAS curve. A decrease in long-run aggregate supply is illustrated by a leftward shift.

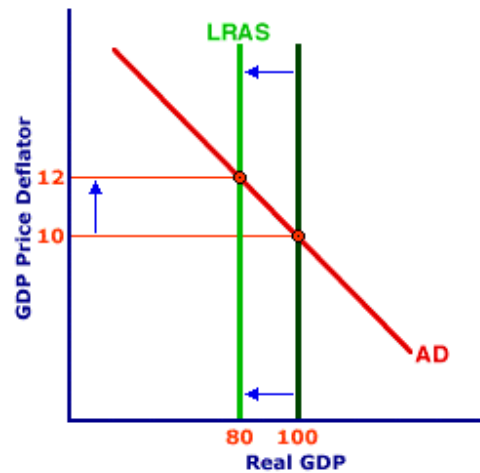
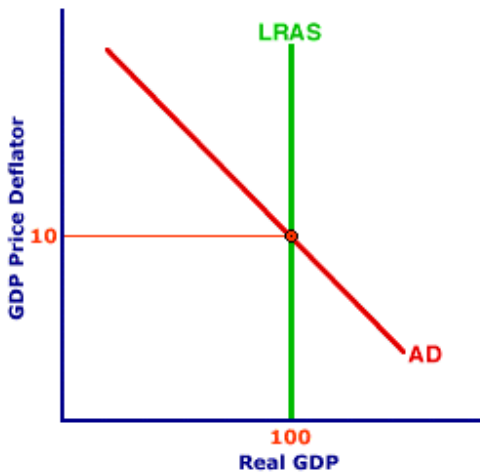


AGGREGATE SUPPLY DECREASE, LONG-RUN AGGREGATE MARKET:

A shock to the long-run aggregate market caused by a decrease in aggregate supply, resulting in and illustrated by a leftward shift of the long-run aggregate supply curve. A decrease in aggregate supply in the long-run aggregate market results in an increase in the price level and a decrease in real production. The level of real production resulting from the shock is a smaller level of full-employment real production.

While a wide range of specific aggregate supply determinants can cause a decrease in aggregate supply, the following rank among the more important:

- A decline in the size of the population or a decrease in the labor force participation rate, both of which decrease the quantity of labor available for production.
- Depreciation of capital goods, which decreases the quantity of capital available for production.
- The depletion of existing mineral deposits or fossil fuels, both of which decrease the quantity of land resources available for production.
- A decrease in education which decreases the quality of labor resources.
- A decrease in technology which decreases the quality of capital resources.

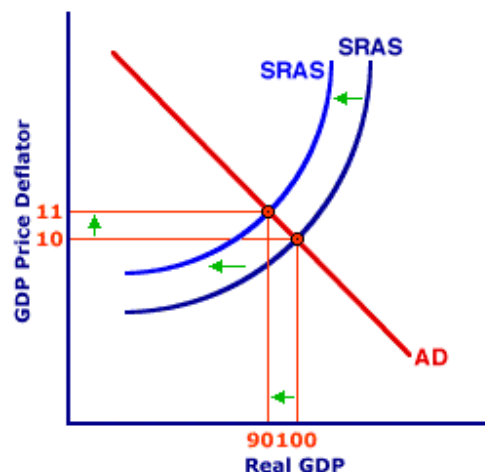
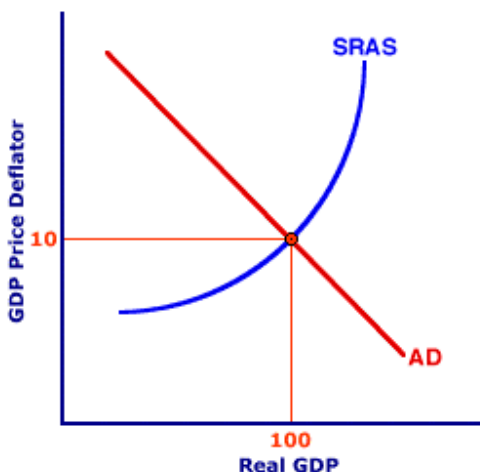


AGGREGATE SUPPLY DECREASE, SHORT-RUN AGGREGATE MARKET:

A shock to the short-run aggregate market caused by a decrease in aggregate supply, resulting in and illustrated by a leftward shift of the short-run aggregate supply curve. A decrease in aggregate supply in the short-run aggregate market results in an increase in the price level and a decrease in real production. The level of real production resulting from the shock can be greater or less than full-employment real production.

While a wide range of specific aggregate supply determinants can cause a decrease in aggregate supply, the following rank among the more important:

- A decline in the size of the population or a decrease in the labor force participation rate, both of which decrease the quantity of labor available for production.
- Depreciation of capital goods, which decreases the quantity of capital available for production.
- The depletion of existing mineral deposits or fossil fuels, both of which decrease the quantity of land resources available for production.
- A decrease in education which decreases the quality of labor resources.
- A decrease in technology which decreases the quality of capital resources.
- An increase in wages or energy prices, both of which raise economy-wide production cost.

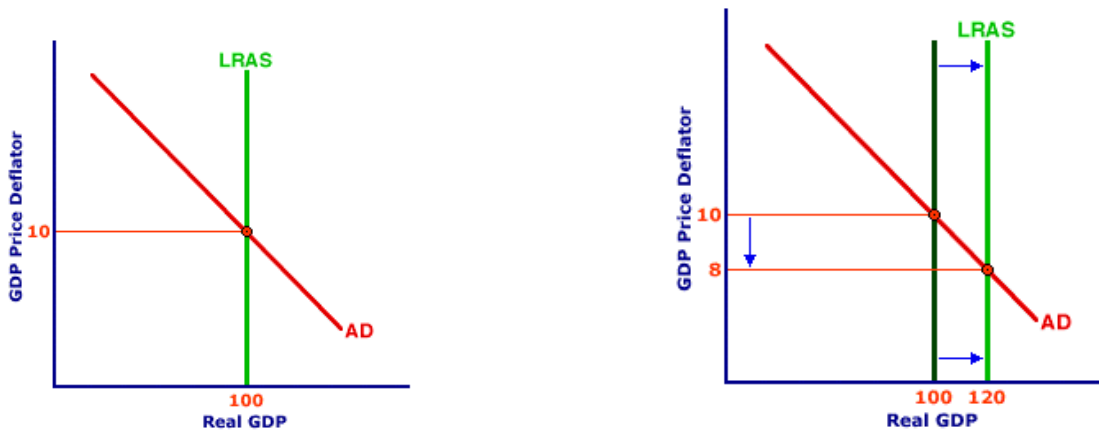


AGGREGATE SUPPLY INCREASE, LONG-RUN AGGREGATE MARKET:

A shock to the long-run aggregate market caused by an increase in aggregate supply, resulting in and illustrated by a rightward shift of the long-run aggregate supply curve. An increase in aggregate supply in the long-run aggregate market results in a decrease in the price level and an increase in real production. The level of real production resulting from the shock is a greater level of full-employment real production.

While a wide range of specific aggregate supply determinants can cause an increase in aggregate supply, the following rank among the more important:

- *Growth of the population or an increase in the labor force participation rate, both of which increase the quantity of labor available for production.*
- *Investment in capital goods prompted by lower interest rates, lower capital good prices, or technological advances, which increases the quantity of capital available for production.*
- *The discovery of new mineral deposits or fossil fuels, both of which increase the quantity of land resources available for production.*
- *An increase in education which increases the quality of labor resources.*
- *An increase in technology which increases the quality of capital resources.*

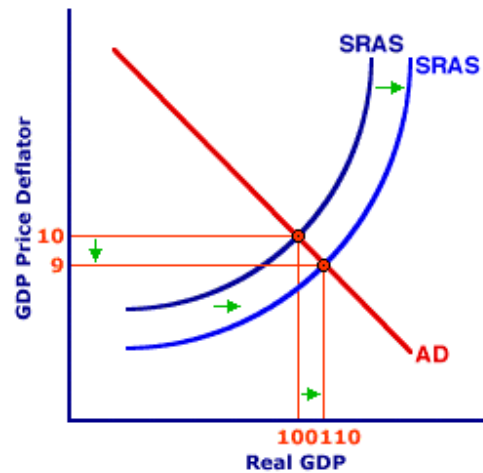
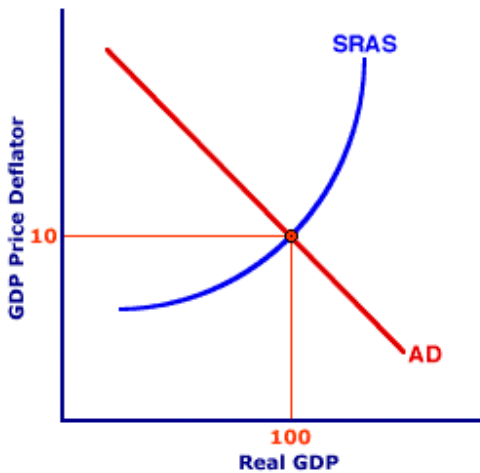


AGGREGATE SUPPLY INCREASE, SHORT-RUN AGGREGATE MARKET:

A shock to the short-run aggregate market caused by an increase in aggregate supply, resulting in and illustrated by a rightward shift of the short-run aggregate supply curve. An increase in aggregate supply in the short-run aggregate market results in a decrease in the price level and an increase in real production. The level of real production resulting from the shock can be greater or less than full-employment real production.

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- *An increase in education which increases the quality of labor resources.*
- *An increase in technology which increases the quality of capital resources.*
- *A reduction in wages or energy prices, both of which reduce economy-wide production cost.*



Unemployment and its impact

Defining unemployment

Unemployment describes the state of a worker who is able and willing to take work but cannot find it. As indicated by the unemployment rate and other yardsticks, unemployment is an important measure of the economy's strength.

Labour Force:

- Employed: A person is considered employed if he or she has spent most of the previous week working at a paid job.
- Unemployed: A person is unemployed if he or she is on temporary layoff, is looking for a job, or is waiting for the start date of a new job.
- Not in the Labor Force: A person who fits neither of these categories, such as a full-time student, homemaker, or retiree, is not in the labor force.
- Labor Force: The *labor force* is the total number of workers and the BLS defines that it as the sum of the employed and the unemployed.

Unemployment rate

- The Unemployment rate is the number of unemployed divided by the total labour force

$$\text{Unemployment Rate} = \left(\frac{\text{Unemployed}}{\text{Labour Force}} \right) * 100$$

Causes of Unemployment

1. Economic Inflation

Inflation is one of the oldest causes of unemployment. A state's economy faces a steep rise in prices as compared to other economies of the world. This leads to failure in exports as companies are not able to compete with others due to rise in price. Incomes suffer, people's savings fall and gradually companies start firing people, being unable to pay them on due time. Thus, the rate of unemployment increases.

2. Economic Recession

A severe financial crisis hit almost all countries throughout the world. Rise in unemployment. People remained unemployed till the economies regained stability.

3. Welfare Payments

The aids given by government to the unemployed people actually reduce their willingness to work. This is an indirect negative impact of extended unemployment benefits because people become more dependent on the grants they receive.

4. Changing Technology

Since technology keeps advancing with passing days, most companies look for a change in workforce.

Although, they do not fire people randomly, they hire people having specialization in the advanced techniques

5. Job Dissatisfaction

There are many people who take up jobs on temporary basis. The reasons being family pressure, financial crisis and for experience. Thus, job dissatisfaction becomes one of the primary cause behind unemployment.

6. Racial Discrimination

People who are not citizens of that particular country remain unemployed due to discrimination on grounds of race, religion, caste and ethnicity.

In the set up of a modern market economy, there are many factors, which contribute to unemployment. Causes of unemployment are varied and it may be due to the following factors:

- Rapid changes in technology
- Recessions
- Inflation
- Disability
- Undulating business cycles
- Changes in tastes as well as alterations in the climatic conditions. This may in turn lead to decline in demand for certain services as well as products.
- Attitude towards employers
- Willingness to work
- Perception of employees
- Employee values
- Discriminating factors in the place of work (may include discrimination on the basis of age, class, ethnicity, color and race).
- Ability to look for employment

Types of Unemployment:

1. Voluntary Unemployment:

Voluntary unemployment occurs when a working persons willingly withdraws himself from work. This type of unemployment may be caused due to a number of reasons

2. Involuntary unemployment:

Involuntary unemployment occurs when at a particular time the number of worker is more than the number of jobs.

3. Frictional Unemployment

Frictional unemployment is transitional unemployment due to people moving between jobs. It occurs when a worker moves from one job to another

4. Structural Unemployment:

It arises when the qualification of a person is not enough to meet his job responsibilities. It is a well-known fact that everyday new products are being launched in the market. As a result, the demand for certain goods and services also changes.

5. Cyclical Unemployment or Keynesian "demand deficient" unemployment:

Cyclical unemployment is caused by the trade or business cycles. unemployment that relates to the cyclical trends in growth and production that occur within the business cycle

6. Real wage unemployment or classical unemployment:

It occurs when the real wages for workers in an economy are too high, meaning that firms are unwilling to employ every person looking for a job.

7. Seasonal unemployment:

Seasonal unemployment occurs at certain seasons of the year. It is a widespread phenomenon of Indian villages basically associated with agriculture. Since agricultural work depends upon Nature, therefore, in a certain period

of the year there is heavy work, while in the rest, the work is lean. For example, in the sowing and harvesting period, the agriculturists may engage themselves day and night.

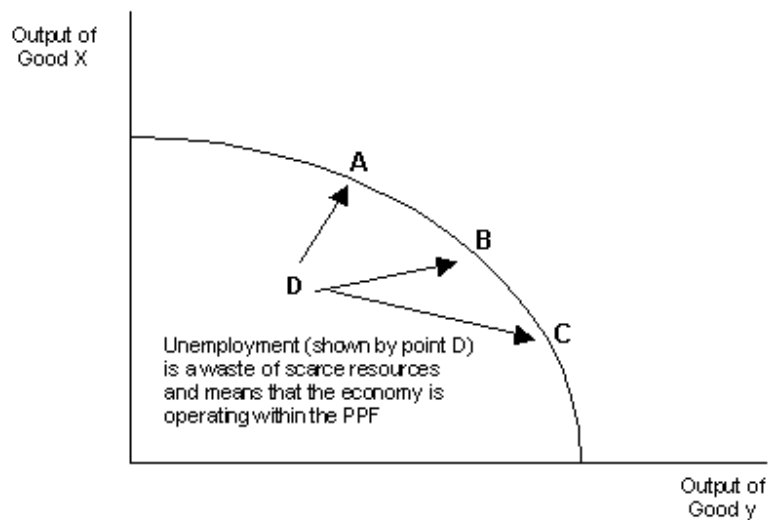
Cost of Unemployment:

The economic and social costs of unemployment

High unemployment is widely recognized to create substantial costs for individuals and for the economy as a whole. Some of these costs are difficult to measure, especially the longer-term social costs of a high level of unemployment. Some of the costs are summarized below:

1. **Loss of income:** Unemployment normally results in a loss of income. The majority of the unemployed experience a decline in their living standards and are worse off out of work.
2. **Negative multiplier effects:** The closure of a local factory with the loss of hundreds of jobs can have a large negative multiplier effect on both the local and regional economy. One person's spending is another's income so to lose well-paid jobs can lead to a drop in demand for local services, downward pressure on house prices and 'second-round employment effects' for businesses supplying the factor or plant that closed down
3. **Fiscal costs:** The government loses out because of a fall in tax revenues and higher spending on welfare payments for families with people out of work. The result can be an increase in the budget deficit which then increases the risk that the government will have to raise taxation or scale back plans for public spending on public and merit goods.
4. **Loss of national output:** Unemployment involves a loss of potential national output (i.e. GDP operating below potential) and represents an inefficient use of scarce resources. If some people choose to leave the labour market permanently because they have lost the motivation to search for work, this can have a negative effect on long run aggregate supply (LRAS) and thereby damage the economy's growth potential. Lost output of goods and services

Unemployment causes a waste of scarce economic resources and reduces the long run growth potential of the economy. An economy with high unemployment is producing within its production possibility frontier. The hours that the unemployed do not work can never be recovered.



But if unemployment can be reduced, total national output can rise leading to an improvement in economic welfare.

5. **Social costs:** Rising unemployment is linked to social deprivation. There is a relationship with crime, and social dislocation (increased divorce rates, worsening health and lower life expectancy). Areas of high unemployment see falling real incomes and a worsening in inequalities of income and wealth

Areas of high unemployment will also see a decline in real income and spending together with a rising scale of relative poverty and income inequality. As younger workers are more geographically mobile than older employees, there is a risk that areas with above average unemployment will suffer from an ageing potential workforce - making them less attractive as investment locations for new businesses.

6. Deadweight loss of investment in human capital

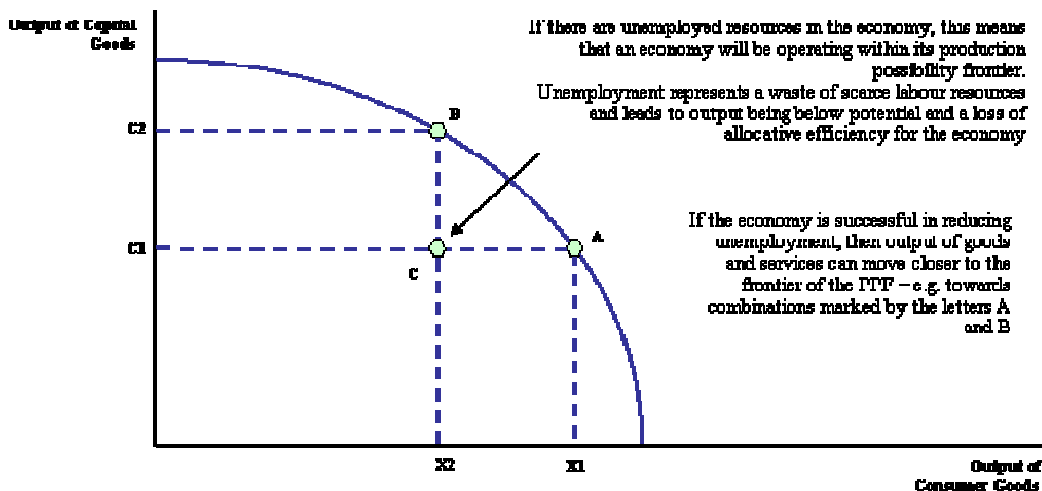
Unemployment wastes some of the scarce resources used in training workers. Furthermore, workers who are unemployed for long periods become de-skilled as their skills become increasingly dated in a rapidly changing job market. This reduces their chances of gaining employment in the future, which in turn increases the economic burden on government and society. See the revision page on long term unemployment

7. The duration of unemployment affects the economic and social costs

It is clear therefore that unemployment carries substantial economic and social costs. These costs are greatest when long-term structural unemployment is high. Indeed many governments focus their labour market policies on improving the employment prospects of the long-term unemployed.

Unemployment and the production possibility frontier

The production possibility frontier shows the combinations of output that can be produced using all available factor resources efficiently. Any point on the PPF represents a productively efficient allocation of resources. Points that lie within the curve represent an under-utilisation of scarce resources – including labour



Impact of Unemployment:

The main impact unemployment has on society and the economy is the productive power that it withholds - i.e. any person who is unemployed could be doing something productive and thus contributing to the economy as a whole.

Unemployment also has a direct cost to the government in the form of any unemployment benefits paid to the unemployed and in lost tax earnings. Unemployment in an economy has many impacts on the government, firms and, of course, the unemployed people themselves.

On the government:

- **Fewer tax revenues** – Because fewer people are working, there will be fewer people earning enough income to pay tax. As a result, the government will receive less tax revenue and this will have a large impact on the government's finances.

- **Lower economic growth (GDP)** – As fewer people have jobs, firms won't be able to produce as many goods and services. As a result, the output of goods and services in the economy, GDP, will be lower. This also has an impact on government taxation and spending and will negatively affect their finances.
- **Higher welfare costs** – Unemployment in an economy means that fewer people will be working and more people will be claiming benefits. More people claiming benefits creates a drain on the government's finances and means they have to spend more on benefit payments and less on other areas of the economy – so there is an opportunity cost.
- **Higher supply-side costs** – With unemployment in an economy, more people won't be working. These people need to be taught skills in order for them to be employable by firms. The government will have to spend more money on training the unemployed so that they have the right skills to be employed in a modern economy. This is also a drain on government finances and this money could also be spent elsewhere.

On firms:

- **Lower wage costs** – Unemployment in an economy increases the supply of labour available for firms to employ. This creates a downward pressure on wages as labour is less scarce and more people are willing to get a job at a slightly lower wage. This will have a positive effect on firms as their variable costs will fall.
- **Larger pool of labour** – Unemployment creates a large pool of labour which gives firms more choice of who to employ. This allows them to employ workers with higher skills and more experience.
- **Less demand for goods and services** – Unemployment in an economy means that a lot more people will have less disposable income. Therefore spending on most goods and services will fall. As a result, firms will experience lower sales revenue and will likely see a fall in profits.
- **Increase in demand for inferior goods** – There are some goods in an economy that people buy more of when their incomes are lower – these are known as inferior goods. When unemployment increases in an economy more people start buying inferior goods because they have lower incomes. As a result, sellers of inferior goods will see an increase in sales revenue and potentially an increase in profits.
- **Higher training costs** – As we have seen, many firms will benefit from lower wage costs as a result of unemployment. However, many firms may also have to spend more resources on training new employees because they have been out of work for so long. Training new employees uses up a firm's time and resources and as a result most firms will see an increase in employment costs.

On people:

- **Lower standard of living** – The people who are unemployed will suffer a loss of income and will either have to survive on private savings or on benefits. As a result, they will be able to buy fewer goods and services and will see a fall in their standard of living.
- **Loss of skills** – When someone becomes unemployed they will stop working and will start losing their skills and ability to work. The longer someone stays unemployed, the less employable they will be to firms because firms will need to spend money on retraining them.
- **Loss of confidence/depression** – People who are unemployed will also suffer a loss of confidence in their ability. Many people who become unemployed will also suffer stress related illnesses and depression.

MEASURES TO REDUCE UNEMPLOYMENT:

Government policies to reduce unemployment

The government does not have a specific target for any particular rate of unemployment. Instead its objective for the labour market is expressed in terms of a broad ambition to keep employment high and provide employment opportunities for all.

Distinction can be made between demand-side and supply-side policies to improve the working of the labour market in matching people to the available jobs and to the changing demands and requirements of different industries. There are inevitably limits to what the government can do to achieve sustainable reductions in unemployment. And often the policies that are introduced to boost employment can be costly and involve an opportunity cost.

Some countries are more successful than others in reducing the scale of unemployment. In the long term, effective policies are required for both the demand and the supply side of the economy so that enough new jobs are created and that people possess the skills and incentives to take those jobs.

In general the most effective policies are those that:

1. **Stimulate an improvement in the human capital of the workforce** – so that more of the unemployed have the skills to take up the available jobs. Policies normally concentrate on improving the occupational mobility of labour. The pattern of employment in any modern economy is always changing, so people need to have sufficient flexibility to adapt to structural changes in industries over the years
2. **Improve incentives for people to search and then accept paid work** – this may require reforms of the tax and benefits system for example a reduction in the starting rate of income tax (an incentive for people in lower paid jobs). Or perhaps a change in welfare benefits such that people who find work do not experience a sharp withdrawal of benefits because they are now earning more. The reality is that simply cutting welfare benefits across the board makes little difference to the unemployment figures – because of the complex nature of most unemployment. But targeted measures to improve incentives, including the linking of welfare benefits to participation in work experience programmes which is part of the New Deal programme or lower tax rates for people on low incomes might have an impact.
3. **Achieve a sustained period of economic growth** – this requires that aggregate demand is sufficiently high for businesses to be looking to expand their workforce. The Keynesian theory of unemployment emphasizes the argument that if monetary and fiscal policy does not keep demand at a high enough level, then the economy is less likely to be able to sustain a high rate of employment. However, not every increase in aggregate demand and production has to be met by employing more labour. Each year we expect to see a rise in labour productivity (more output per worker employed). And, businesses may decide to increase production by making greater use of capital inputs such as extra units of machinery. A growing economy creates jobs for people entering the labour market for the first time. And, it provides employment opportunities for people unemployed and looking for work.

4. **Reducing occupational immobility of labour (supply-side policy)**

Immobility of labour is a cause of labour market failure and structural unemployment. Policies aimed at reducing this problem aim to provide the unemployed with the skills they need to find re-employment and also to improve the incentives to find work. Improvements in the availability and quality of education and work-place training will increase the human capital of unemployed workers and help to ensure that more of the unemployed have the right skills to take up the available job opportunities. For many years the relative paucity of work-place training has been seen as a weakness in the UK labour market. Both employers and employees may actually underestimate the long-term value of training in terms of the potential benefit to a business and the long term gains to a worker. The free-rider problem may also contribute to a sub-optimal level of training from society's point of view.

5. **Benefit and tax reforms (supply-side policy)**

To some economists, a policy that reduces the value of welfare benefits might increase the incentive for the unemployed to take a job. The evidence drawn from recent experience in the UK is that simply cutting the value of state welfare payments in reality makes little difference to the level of unemployment in the long run. It is rare that the root cause of someone staying out of work is the prospect of generous out of work welfare handouts. Instead, targeted measures to improve people's incentives, including the linking of welfare benefits to participation in genuine work experience programmes which is part of the New Deal programme or the introduction of lower marginal income tax rates for people on low incomes might by contrast have a noticeable impact.

6. **Reflating aggregate demand (demand-side policy)**

Reflationary policy: Fiscal or monetary policy aimed at boosting the level of economic activity, usually through inflationary means such as public spending or reduction in the taxation level.

The government can use the traditional weapon of macro-economic policies designed to increase AD and thereby generate a higher level of national income and employment. Reflationary policies can help to mitigate the effects of an economic recession but there are risks involved in using both fiscal and monetary policy simply to boost demand when output is low.

The government might also make more active use of regional policies to encourage inflows of foreign investment from multinational companies particularly to those areas and regions where unemployment is persistently above the national average. The main weakness of relying too heavily on demand-management policies to reduce unemployment is that much unemployment is not cyclical; rather it is frictional and structural in origin and cannot be solved simply by injecting vast amounts of money into the circular flow of income and spending.

7. Employment subsidies (demand-side policy)

Firms could be given tax breaks or subsidies for taking on long term unemployed. This helps give them new confidence and on the job training. However, it will be quite expensive and it may encourage firms to simply replace current workers with the long term unemployed in order to benefit from the tax breaks.

Supply side policies to reduce Unemployment

1. Education and Training. The aim is to give the long term unemployed new skills which enable them to find jobs in developing industries, e.g. retrain unemployed steel workers to have basic I.T. skills which helps them find work in service sector. – However, despite providing education and training schemes, the unemployed may be unable or unwilling to learn new skills. At best it will take several years to reduce unemployment.

2. Reduce Power of trades unions. If unions are able to bargain for wages above the market clearing level, they will cause real wage unemployment. In this case reducing influence of trades unions (or reducing Minimum wages) will help solve this real wage unemployment.

3. Improve Labour Market Flexibility. It is argued that higher structural rates of unemployment in Europe is due to restrictive labour markets which discourages firms from employing workers in the first place. For example, abolishing maximum working weeks and making it easier to hire and fire workers may encourage more job creation. However, increased labour market flexibility could cause a rise in temporary employment and greater job insecurity.

4. Stricter Benefit requirements. Governments could take a more pro-active role in making the unemployed accept a job or risk losing benefits. After a certain time period the government could guarantee some kind of public sector job (e.g. cleaning streets). This could significantly reduce unemployment. However, it may mean the government end up employing thousands of people in un-productive tasks which is very expensive. Also, if you make it difficult to claim benefits, you may reduce the claimant count, but not the International Labour force survey.

5. Improved Geographical Mobility. Often unemployed is more concentrated in certain regions. To overcome this geographical unemployment, the government could give tax breaks to firms who set up in depressed areas. Alternatively, they can give financial assistance to unemployed workers who move to areas with high employment. (e.g. help with renting in London)

Policies used to reduce unemployment

Demand side policies	Supply-side policies
Employment subsidies for employers who take on the long-term unemployed (New Deal)	Welfare reforms – including lower starting rates of income tax and the introduction of tax credits
Financial assistance for inward investment from overseas.	Policies to promote entrepreneurship and the growth of small-medium size enterprises
Monetary policy – low interest rates has allowed aggregate demand to grow despite a global economic slowdown. Fiscal policy is also boosting AD as the budget deficit increases.	Increased spending on education and attempts to increase private sector spending on training.

Okun's law:

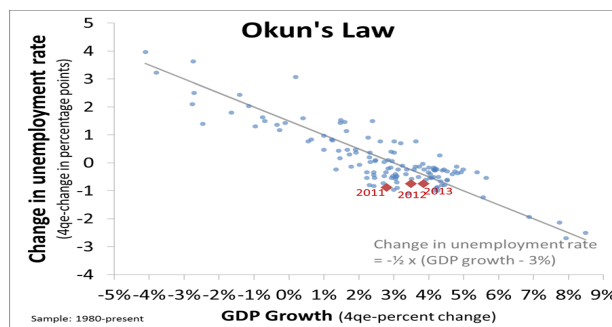
Okun's law refers to the relationship between increases in unemployment and decreases in a country's gross domestic product (GDP). It states that for every one percent increase in unemployment above a "natural" level, that GDP will decrease by anywhere from two to four percent from its potential.

$\% \text{ change in real GDP} = 3\% - 2 \times (\text{change in unemployment rate})$

This equation basically says that real GDP grows at about 3% per year when unemployment is normal. For every point above normal that unemployment moves, GDP growth falls by 2%. Similarly, for every point below normal that unemployment moves, GDP growth rises by 2%. This equation, while not exact, provides a good estimate of the effects of unemployment upon output.

Okun's Law describes the negative relationship between GDP and unemployment. As GDP rises above its natural rate, unemployment falls. As GDP falls below its natural rate, unemployment rises.

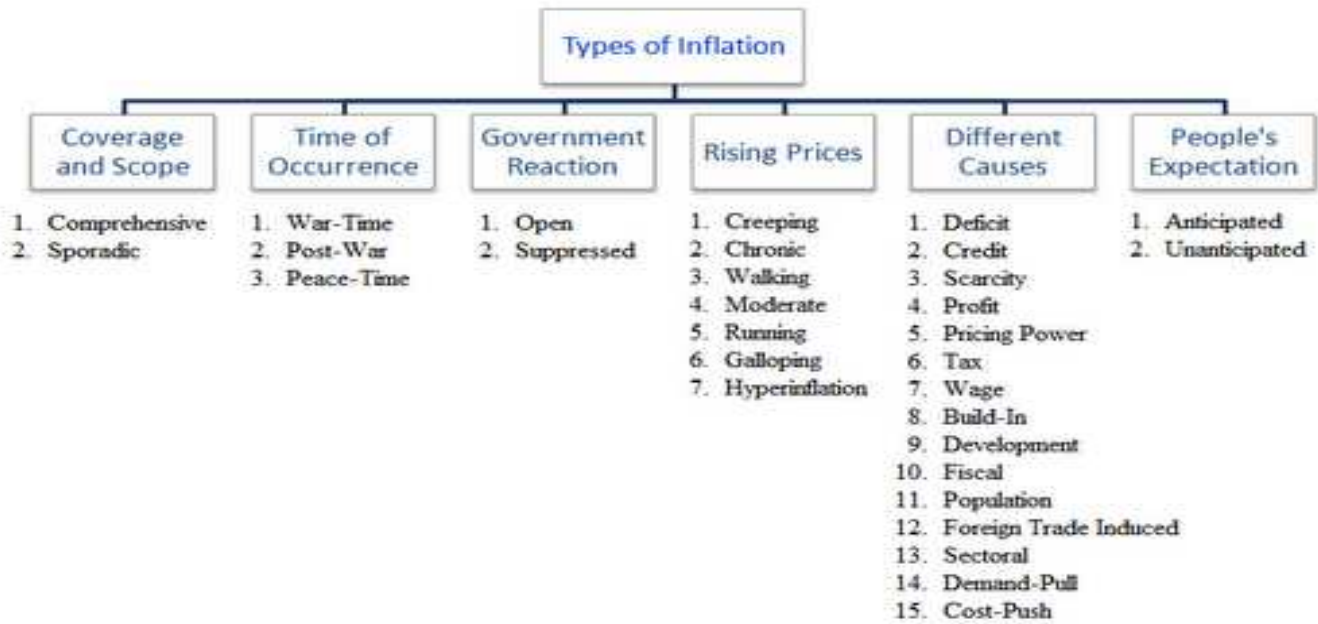
- If the economy is producing above its natural rate (as a result of economic fluctuations), firms are producing more than their long-run aggregate supply curve indicates they should. One of the ways firms temporarily produce above their natural rate is to hire more workers. As firms do this, there are less people looking for work and the unemployment rate falls.
- If the economy is producing below its natural rate (as a result of economic fluctuations), firms are producing less than their long-run aggregate supply curve indicates they should. Because firms are producing less, some of their workers are standing idle. Instead of paying these workers to stand around, the firm could lay them off. These workers start looking for work elsewhere, causing the unemployment rate to increase.

**INFLATION****Definition:**

“An increase in the amount of currency in circulation, resulting in a relatively sharp and sudden fall in its value and rise in prices: it may be caused by an increase in the volume of paper money issued or of gold mined, or a relative increase in expenditures as when the supply of goods fails to meet the demand.

“A persistent increase in the level of consumer prices or a persistent decline in the purchasing power of money, caused by an increase in available currency and credit beyond the proportion of available goods and services.”

Types of Inflation:



I. Types of Inflation on Coverage: Types of inflation on the basis of coverage and scope point of view:-

- 1. Comprehensive Inflation:** When the prices of all commodities rise throughout the economy it is known as Comprehensive Inflation. Another name for comprehensive inflation is Economy Wide Inflation.
- 2. Sporadic Inflation:** When prices of only few commodities in few regions (areas) rise, it is known as Sporadic Inflation. It is sectional in nature. For example, rise in food prices due to bad monsoon (winds bringing seasonal rains in India).

II. Types of Inflation on Time of Occurrence: Types of inflation on the basis of time (period) of occurrence:-

- 1. War-Time Inflation:** Inflation that takes place during the period of a war-like situation is known as War-Time inflation. During a war, scarce productive resources are all diverted and prioritized to produce military goods and equipments. This overall result in very limited supply or extreme shortage (low availability) of resources (raw materials) to produce essential commodities. Production and supply of basic goods slow down and can no longer meet the soaring demand from people. Consequently, prices of essential goods keep on rising in the market resulting in War-Time Inflation.
- 2. Post-War Inflation:** Inflation that takes place soon after a war is known as Post-War Inflation. After the war, government controls are relaxed, resulting in a faster hike in prices than what experienced during the war.
- 3. Peace-Time Inflation:** When prices rise during a normal period of peace, it is known as Peace-Time Inflation. It is due to huge government expenditure or spending on capital projects of a long gestation (development) period.

III. Types of Inflation on Government Reaction: Types of inflation on basis of Government's reaction or its degree of control:-

- 1. Open Inflation:** When government does not attempt to restrict inflation, it is known as Open Inflation. In a free market economy, where prices are allowed to take its own course, open inflation occurs.
- 2. Suppressed Inflation:** When government prevents price rise through price controls, rationing, etc., it is known as Suppressed Inflation. It is also referred as Repressed Inflation. However, when government controls are removed, Suppressed inflation becomes Open Inflation. Suppressed Inflation leads to corruption, black marketing, artificial scarcity, etc.

IV. Types of Inflation on Rising Prices: Types of inflation on the basis of rising prices or rate of inflation:-

- 1. Creeping Inflation:** When prices are gently rising, it is referred as Creeping Inflation. It is the mildest form of inflation and also known as a Mild Inflation or Low Inflation. According to R.P. Kent, when prices rise by not more than (upto) 3% per annum (year), it is called Creeping Inflation.
- 2. Chronic Inflation:** If creeping inflation persist (continues to increase) for a longer period of time then it is often called as Chronic or Secular Inflation. Chronic Creeping Inflation can be either Continuous

(which remains consistent without any downward movement) or Intermittent (which occurs at regular intervals). It is called chronic because if an inflation rate continues to grow for a longer period without any downturn, then it possibly leads to Hyperinflation.

3. **Walking Inflation:** When the rate of rising prices is more than the Creeping Inflation, it is known as Walking Inflation. When prices rise by more than 3% but less than 10% per annum (i.e between 3% and 10% per annum), it is called as Walking Inflation. According to some economists, walking inflation must be taken seriously as it gives a cautionary signal for the occurrence of Running inflation. Furthermore, if walking inflation is not checked in due time it can eventually result in Galloping inflation.
4. **Moderate Inflation:** Prof. Samuelson clubbed together concept of Creeping and Walking inflation into Moderate Inflation. When prices rise by less than 10% per annum (single digit inflation rate), it is known as Moderate Inflation. According to Prof. Samuelson, it is a stable inflation and not a serious economic problem.
5. **Running Inflation:** A rapid acceleration in the rate of rising prices is referred as Running Inflation. When prices rise by more than 10% per annum, running inflation occurs. Though economists have not suggested a fixed range for measuring running inflation, we may consider price rise between 10% to 20% per annum (double digit inflation rate) as a running inflation.
6. **Galloping Inflation:** According to Prof. Samuelson, if prices rise by double or triple digit inflation rates like 30% or 400% or 999% per annum, then the situation can be termed as Galloping Inflation. When prices rise by more than 20% but less than 1000% per annum (i.e. between 20% to 1000% per annum), galloping inflation occurs. It is also referred as Jumping inflation. India has been witnessing galloping inflation since the second five year plan period.
7. **Hyperinflation:** Hyperinflation refers to a situation where the prices rise at an alarming high rate. The prices rise so fast that it becomes very difficult to measure its magnitude. However, in quantitative terms, when prices rise above 1000% per annum (quadruple or four digit inflation rate), it is termed as Hyperinflation. During a worst case scenario of hyperinflation, value of national currency (money) of an affected country reduces almost to zero. Paper money becomes worthless and people start trading either in gold and silver or sometimes even use the old barter system of commerce. Two worst examples of hyperinflation recorded in world history are of those experienced by Hungary in year 1946 and Zimbabwe during 2004-2009 under Robert Mugabe's regime.

V. Types of Inflation on Causes: Types of inflation on the basis of different causes:-

1. **Deficit Inflation:** Deficit inflation takes place due to deficit financing. The Planned expenditure by a government to put more money into the economy than it takes out by taxation, with the expectation that increased business activity will bring enough additional revenue to cover the shortfall. Also called deficit spending.
2. **Credit Inflation:** Credit inflation takes place due to excessive bank credit or money supply in the economy.
3. **Scarcity Inflation:** Scarcity inflation occurs due to hoarding. Hoarding is an excess accumulation of basic commodities by unscrupulous traders and black marketers. It is practised to create an artificial shortage of essential goods like food grains, kerosene, etc. with an intension to sell them only at higher prices to make huge profits during scarcity inflation. Though hoarding is an unfair trade practice and a punishable criminal offence still some crooked merchants often get themselves engaged in it.
4. **Profit Inflation:** When entrepreneurs are interested in boosting their profit margins, prices rise.
5. **Pricing Power Inflation:** It is often referred as Administered Price inflation. It occurs when industries and business houses increase the price of their goods and services with an objective to boost their profit margins. It does not occur during a financial crisis and economic depression, and is not seen when there is a downturn in the economy. As Oligopolies have the ability to set prices of their goods and services it is also called as Oligopolistic Inflation.
6. **Tax Inflation:** Due to rise in indirect taxes, sellers charge high price to the consumers.
7. **Wage Inflation:** If the rise in wages is not accompanied by a rise in output, prices rise.
8. **Build-In Inflation:** Vicious cycle of Build-in inflation is induced by adaptive expectations of workers or employees who try to keep their wages or salaries high in anticipation of inflation. Employers and

Organizations raise the prices of their respective goods and services in anticipation of the workers or employees' demands. This overall builds a vicious cycle of rising wages followed by an increase in general prices of commodities. This cycle, if continues, keeps on accumulating inflation at each round turn and thereby results into what is called as Build-in inflation.

9. **Development Inflation:** During the process of development of economy, incomes increases, causing an increase in demand and rise in prices.
10. **Fiscal Inflation:** It occurs due to excess government expenditure or spending when there is a budget deficit.
11. **Population Inflation:** Prices rise due to a rapid increase in population.
12. **Foreign Trade Induced Inflation:** It is divided into two categories, viz., (a) Export-Boom Inflation, and (b) Import Price-Hike Inflation.

Export-Boom Inflation: Considerable increase in exports may cause a shortage at home (within exporting country) and results in price rise (within exporting country). This is known as Export-Boom Inflation.

Import Price-Hike Inflation: If a country imports goods from a foreign country, and the prices of imported goods increases due to inflation abroad, then the prices of domestic products using imported goods also rises. This is known as Import Price-Hike Inflation. For e.g. India imports oil from Iran at \$100 per barrel. Oil prices in the international market suddenly increases to \$150 per barrel. Now India to continue its oil imports from Iran has to pay \$50 more per barrel to get the same amount of crude oil. When the imported expensive oil reaches India, the indian consumers also have to pay more and bear the economic burden. Manufacturing and transportation costs also increase due to hike in oil prices. This, consequently, results in a rise in the prices of domestic goods being manufactured and transported. It is the end-consumer in India, who finally pays and experiences the ultimate pinch of Import Price-Hike Inflation. If the oil prices in the international market fall down then the import price-hike inflation also slows down, and vice-versa.

13. **Sectoral Inflation:** It occurs when there is a rise in the prices of goods and services produced by certain sector of the industries. For instance, if prices of crude oil increases then it will also affect all other sectors (like aviation, road transportation, etc.) which are directly related to the oil industry. For e.g. If oil prices are hiked, air ticket fares and road transportation cost will increase.
14. **Demand-Pull Inflation :** Inflation which arises due to various factors like rising income, exploding population, etc., leads to aggregate demand and exceeds aggregate supply, and tends to raise prices of goods and services. This is known as Demand-Pull or Excess Demand Inflation.
15. **Cost-Push Inflation:** When prices rise due to growing cost of production of goods and services, it is known as Cost-Push (Supply-side) Inflation. For e.g. If wages of workers are raised then the unit cost of production also increases. As a result, the prices of end-products or end-services being produced and supplied are consequently hiked.

VI. Types of Inflation on Expectation: Types of inflation on the basis of expectation or predictability:-

1. **Anticipated Inflation:** If the rate of inflation corresponds to what the majority of people are expecting or predicting, then is called Anticipated Inflation. It is also referred as Expected Inflation.
2. **Unanticipated Inflation:** If the rate of inflation corresponds to what the majority of people are not expecting or predicting, then is called Unanticipated Inflation. It is also referred as Unexpected Inflation.

REASONS FOR INFLATION: *For causes of inflation refer Types of inflation on the basis of different causes*

INFLATION AND THE IMPACT:

Inflation affects different people in different ways. It also depends on whether inflation is anticipated or unanticipated. If the inflation rate corresponds to what the majority of people are expecting (anticipated inflation), then we can compensate and the cost isn't high. For example, banks can vary their interest rates and workers can negotiate contracts that include automatic wage hikes as the price level goes up.

Inflation effects the different sectors of the economy (Effects on the distribution of income and wealth, Effects on production, Effects on the Government, Effects on the Balance of Payment, Effects on Monetary Policy, Effects on Social Sector, Effects on Political environment) and different classes of the people (Debtors &

Creditors, Salaried Class, Wages earners, Fixed income group, Investors and shareholders, Businessmen, Agriculturists).

Higher rates of inflation may destabilize the economy by inhibiting growth through discouraging of savings and hence investments. This will thus have long run effects of growth.

Inflation worsens the balance of payments (BOP) problem. It makes domestic products expensive in international markets hence rendering them less competitive and many countries would not be willing to buy from a country hit by inflation. On the other hand, imports continue flowing into the country and as a result this worsens the BOP problem.

Inflation may cause social and political disorders because it reduces people's standard of living (SOL) and their purchasing power.

The effect of inflation and economic growth is manifested in the following cases:

I) Investment:

If the prices of goods increases and people have to compensate for the increase in price, they usually make use of their savings. In the event when savings are depleted, fund for investment is no longer available. An individual tends to invest, only if savings of an individual is strong and has sufficient money to meet his daily needs.

II) Interest rates:

Whenever inflation reigns supreme, it is a well known fact that the value of money goes down. This leads to decline in the purchasing power. In the event, when the rate of inflation is high, the interest rates also rise. With increase in both parameters, cost of goods will not remain the same and consequently people will have to shell out more money for the same goods.

III) Exchange rates:

Inflation and economic growth are affected by exchange rates as well. Exchange rates denote the value of money prevailing in different countries. High rate of inflation causes severe fluctuations in exchange rates. This adversely affects trade (export and import), important business transaction across borders, value of money also changes.

IV) Unemployment:

Growth of a nation depends to a large extent on employment. If rate of inflation is high, unemployment rate is low and vice versa. This theory is propounded by economist William Philips and this gave rise to the Philips Curve.

V) Stocks:

The returns a company offer, on investment fully depend on the performance of the company. Past performance, current position of the company and future trends decide how much (money, in form of bonus or dividend) is to be returned to the investors. Owing to inflation, several monetary as well as fiscal policies are impacted.

VI) Rise in Production cost:

Another common reason of inflation is a rise in production costs, which leads to an increase in the price of the final product. For example, if raw materials increase in price, this leads to the cost of production increasing, this in turn leads to the company increasing prices to maintain their profits. Inflation can also be caused by federal taxes put on consumer products. As the taxes rise, suppliers often pass on the burden to the consumer

Some effects of Inflation:

1. Hardships for poor people and fixed income salaried households
2. Business Profits tend to go up in times of inflation
3. Demand for pay hikes and wage increases
4. Value on money lent out falls in purchasing power - value of money to be repaid falls in terms of purchasing power falls.
6. Interest may rise.
7. Exchange rate may fall
8. Central Bank may try to control money supply growth through hike in cash reserve requirement, raising discount rates (lending interest rate) and conduct open market sale of securities.

The effects of inflation

Inflation can be very damaging for a number of reasons. First, people may be left worse off if prices rise faster than their incomes. Second, inflation can reduce the value of an investment if the returns prove insufficient to compensate them for inflation. Third, since bouts of inflation often go hand in hand with an overheated economy, they can accentuate boom-bust cycles in the economy.

Sustained inflation also has longer-term effects. If money is losing its value, businesses and investors are less likely to make long-term contracts. This discourages long-term investment in the nation's productive capacity. The flip-side of inflation is deflation. This occurs when average prices are falling, and can also result in various economic effects. For example, people will put off spending if they expect prices to fall. Sustained deflation can cause a rapid economic slow-down.

DEFLATION

Deflation is a decrease in the general price level over a period of time. Deflation is the opposite of inflation. For economists especially, the term has been and is sometimes used to refer to a decrease in the size of the money supply (as a proximate cause of the decrease in the general price level). The latter is now more often referred to as a 'contraction' of the money supply. During deflation the demand for liquidity goes up, in preference to goods or interest. During deflation the purchasing power of money increases.

Reasons for Deflation:

- In economic theory deflation is a general reduction in the level of prices, or of the prices of an entire kind of asset or commodity. Deflation should not be confused with temporarily falling prices; instead, it is a sustained fall in general prices.
- Deflation is caused by a shift in the supply and demand curve for goods and interest, particularly a fall in the aggregate level of demand. That is, there is a fall in how much the whole economy is willing to buy, and the going price for goods. Since this idles capacity, investment also falls, leading to further reductions in aggregate demand. This is the deflationary spiral. The solution to falling aggregate demand is stimulus either from the central bank, by expanding the money supply, or by the fiscal authority to increase demand, and borrow at interest rates which are below those available to private entities.
- Deflation is, however, the natural condition of hard currency economies when the rate of increase in the supply of money is not maintained at a rate commensurate to positive population (and general economic) growth. When this happens, the available amount of hard currency per person falls, in effect making money scarcer; and consequently, the purchasing power of each unit of currency increases.
- Deflation also occurs when improvements in production efficiency lowers the overall price of goods. Improvements in production efficiency generally happen because economic producers of goods and services are motivated by a promise of increased profit margins, resulting from the production improvements that they make. But despite their profit motive, competition in the marketplace often prompts those producers to apply at least some portion of these cost savings into reducing the asking price for their goods. When this happens, consumers pay less for those goods; and consequently deflation has occurred, since purchasing power has increased.

Some effects of Deflation

1. Company profits may fall
2. Private domestic capital investment may fall
3. Unemployment may increase.
4. Real value of lands to be repaid may rise,

INFLATION VS UNEMPLOYMENT TRADEOFF

The Tradeoff between Inflation and Unemployment

A. W. Phillips, discovered a relationship between unemployment and inflation. Phillips showed that unemployment and inflation shared an inverse relationship: inflation rose as unemployment fell, and inflation fell

as unemployment rose. Since two major goals for economic policy makers are to keep *both* inflation and unemployment low.

The Phillips Curve

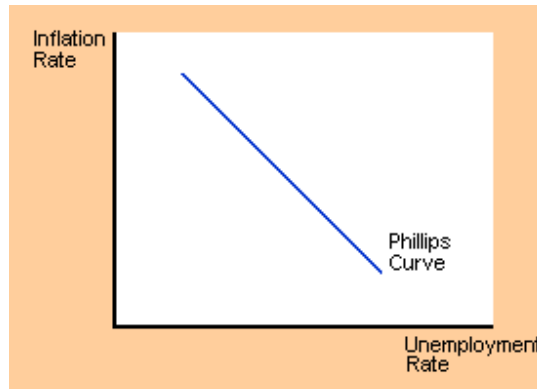
Phillips' discovery can be represented in a curve, called, aptly, a Phillips curve.



Figure %: The Phillips Curve

The Phillips Curve - What is it?

The **Phillips Curve** is a graph depicting a relationship between the unemployment rate and the inflation rate. The figure at right shows a typical **SHORT-RUN Phillips Curve**.

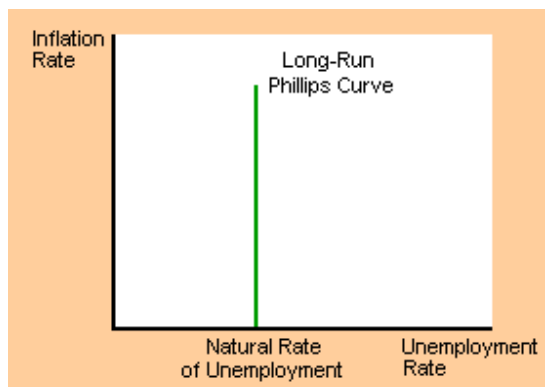


The fact that the short-run Phillips Curve has a negative slope IS the focus of this chapter. The implication of the negative slope is that the unemployment rate and the inflation rate are inversely related - in other words, there is a tradeoff between the two. In the first chapter, one of the ten principles of economics was that society faces a short-run tradeoff between inflation and unemployment. This tradeoff is embodied in the short-run Phillips Curve.

Since inflation and unemployment are BOTH things we don't like, the relationship between the AD-AS (short-run) macroeconomic model and the Phillips Curve are important. Understanding the relationship between economic policy and the inflation-unemployment tradeoff is key to your understanding of macroeconomics.

The Long-Run Phillips Curve

The figure at right depicts the long-run Phillips Curve. Earlier, you spent a chapter studying the **natural rate of unemployment**. This

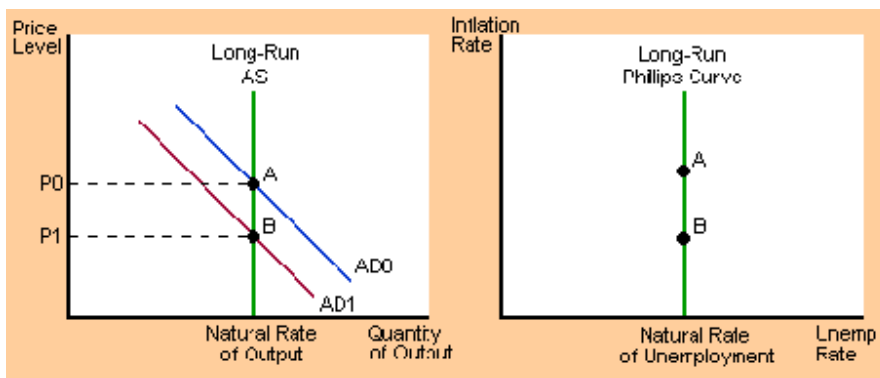


was defined to be about 6% in the long-run, and it was shown that the economy tends to automatically return to this level on its own. If this is true, then the long-run Phillips Curve is quite easy to draw - it MUST be a vertical line at 6% unemployment!

If the long-run Phillips Curve is vertical at 6%, then policymakers must be able to choose any inflation rate they desire along this line.

Q: What is the cost of reducing inflation in the long-run?

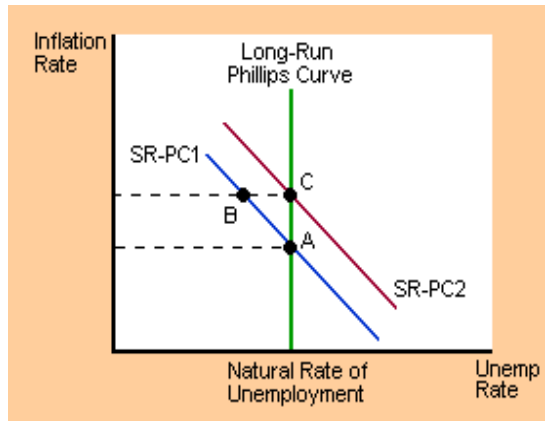
A: In the long-run, there is NO cost to reducing inflation. This is demonstrated in the figures below. On the left, if the Fed reduces the growth of the money supply in the long-run, the AD curve will shift to the left, causing the price level to fall from P0 to P1. However, output is NOT affected by changes in the money supply in the long-run (because of monetary neutrality). Since output remains at the natural rate of output, unemployment remains at the natural rate of unemployment. On the right, the reduction in the growth of the money supply has lowered the long-run rate of inflation and has NOT affected the long-run unemployment rate.



The Short-Run Phillips Curve and Expectations

While there is not a tradeoff between inflation and unemployment in the long-run, there is a short-run tradeoff. From the work of Milton Friedman and Edmund Phelps, we know that expectations of future inflation plays an important role in the short-run tradeoff.

The figure at right demonstrates the relationship between the short-run Phillips Curve and inflationary expectations. Suppose the economy is initially at point "A". Earlier in this chapter, you learned that a shift in the AD curve will cause a movement along the short-run Phillips Curve. An increase in the money supply, an increase in government spending or a tax cut could all shift the AD curve to the right - suppose one of these three occurs. The rightward shift in AD is associated with rising output and a rising price level. The rising price level IS an increase in the rate of inflation. Rising output goes along with rising employment (and falling unemployment). For these reasons, the rightward shift in AD will cause a movement to point "B" in this figure (higher inflation and lower unemployment than point "A").



Now, according to Friedman and Phelps, the higher ACTUAL inflation will eventually cause EXPECTED inflation to rise as well. The increase in EXPECTED inflation shifts the short-run Phillips Curve to the right (to SR-PC2), and the economy ends up at point "C". In your textbook, SR-PC2 was described as a "short-run Phillips Curve with high expected inflation", while the original curve, SR-PC1 was described as a "short-run Phillips Curve with low expected inflation".

The result you should take from the previous figure is that government policies attempting to EXPAND aggregate demand are likely to cause permanently HIGHER rates of inflation, without affecting the long-run unemployment rate. The relationship between the short-run Phillips Curve and inflationary expectations

described by Friedman and Phelps is stated in the following formula from your textbook:

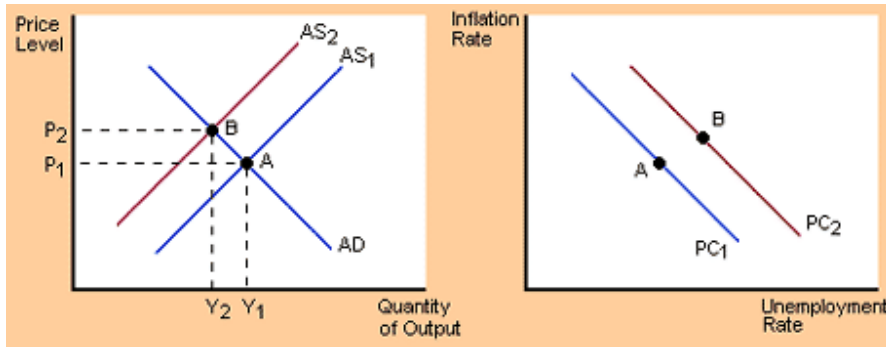
$$\text{Unemployment Rate} = \text{Natural Rate of Unemployment} - \alpha(\text{Actual Inflation} - \text{Expected Inflation})$$

In the previous example, when ACTUAL inflation exceed EXPECTED inflation (at point "B"), unemployment was LESS THAN the natural rate. In the long-run, actual and expected inflation will be equal, and unemployment will equal the natural rate (and the economy will be back on the long-run Phillips Curve).

Supply Shocks, and the Phillips Curve

Q: What happens in the Phillips Curve diagram when the AS curve shifts?

A: The short-run Phillips Curve shifts, changing the attractiveness of the tradeoff between inflation and unemployment.

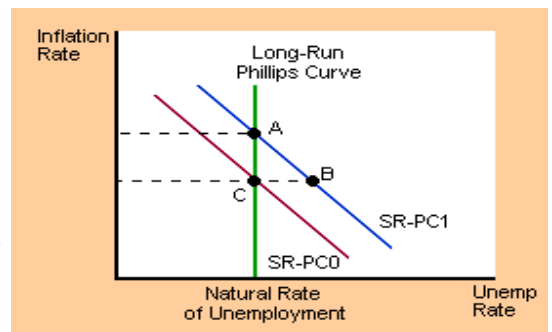


The figure above (on the left) depicts a typical supply shock in the economy (like the OPEC shocks in the 1970's). As the AS curve shifts to the left, the equilibrium in the marcoeconomy moves from point A to point B. As with a shift in the AD curve, there are two things you should watch for when AS shifts. First, notice that the equilibrium price level rises (from P1 to P2), indicating that the level of inflation in the economy has risen. Second, notice that the level of output produced has FALLEN from Y1 to Y2. As output falls the number of laborers required to produce this output also falls. When these workers get laid off, the unemployment rate RISES.

In the figure at right, point B MUST be a point with a higher inflation rate AND a higher unemployment rate. Point B MUST be up and to the right of point A. Because of this, economists say that the short-run Phillips Curve must have shifted to the right. This means that the tradeoff between inflation and unemployment is LESS attractive, because BOTH rates have risen.

The Costs of Reducing Inflation in the Short-Run

The figure at right will illustrate the cost of reducing inflation in the short-run. To reduce inflation, the Fed will run a contractionary monetary policy. The reduction in the money supply will shift AD to the left. Recall that a leftward shift in AD will cause falling output and a falling price level. The falling price level means a falling rate of inflation, while falling output means falling employment (which, in turn, means rising unemployment).



The contractionary monetary policy has the effect of moving the economy from point "A" to point "B" in the figure. You should think of SR-PC1 as the "short-run Phillips Curve with HIGH inflationary expectations". At point "B" inflation is lower and, in the long-run, inflationary expectations will adjust downwards to match the lower ACTUAL inflation. When this occurs, the short-run Phillips Curve will shift INWARD to SR-PC0 (think of SR-PC0 as the "short-run Phillips Curve with low inflationary expectations").

Measurement of Inflation:

Inflation plays an important role in the macroeconomic economy by changing the value of a dollar across time. This section on inflation will deal with three important aspects of inflation. First, it will cover how to calculate inflation. Second, it will cover the effects of inflation calculations using the CPI and GDP measures, WPI, PPI

Calculating inflation

Inflation is the change in the price level from one year to the next. The change in inflation can be calculated by using whatever price index is most applicable to the given situation. The two most common price indices used in calculating inflation are CPI and the GDP deflator. Know, though, that the inflation rates derived from different price indices will themselves be different.

1. Calculating Inflation Using CPI

The price level most commonly used in the United States is the CPI, or consumer price index. Thus, the simplest and most common method of calculating inflation is to calculate the percentage change in the CPI from one year to the next. The CPI is calculated using a fixed basket of goods and services; the percentage change in the CPI therefore tells how much more or less expensive the fixed basket of goods and services in the CPI is from one year to the next. The percentage change in the CPI is also known as the percentage change in the price level or as the inflation rate.

Fortunately, once the CPI has been calculated, the percentage change in the price level is very easy to find. Let us look at the following example of "Country B."

Year	Price of bananas	Quantity of bananas	Price of backrubs	Quantity of backrubs
1	\$1.00	5	\$6.00	5
2	\$1.00	5	\$6.00	7
3	\$2.00	10	\$6.00	9

Figure %: Goods and Services Consumed in Country B

While it is simple to calculate the inflation rate between the base year and a comparison year, it is a bit more difficult to calculate the rate of inflation between two comparison years. To make this calculation, first check that both comparison years use the same base year. This is necessary to ensure that the same fixed basket of goods and services is used. Next, to calculate the percentage change in the level of the CPI, subtract the CPI for the later year from the CPI for the earlier year and then divide by the CPI for the earlier year.

2. The **Wholesale Price Index (WPI)** is the price of a representative basket of wholesale goods. Some countries (like India and The Philippines) use WPI changes as a central measure of inflation. However, United States now report a **producer price index** instead.

The Wholesale Price Index or WPI is "the price of a representative basket of wholesale goods. Some countries use the changes in this index to measure inflation in their economies, in particular India. The Wholesale Price Index focuses on the price of goods traded between corporations, rather than goods bought by consumers, which is measured by the Consumer Price Index. The purpose of the WPI is to monitor price movements that reflect supply and demand in industry, manufacturing and construction. This helps in analyzing both macroeconomic and microeconomic conditions.

WPI is the index that is used to measure the change in the average price level of goods traded in wholesale market. **The characteristics of Wholesale Price Index are as follows:-**

- A new WPI series with 2004-05 base was released on 14th Sep 2010 with **676** items in the commodity basket. Previously, WPI used a sample set of 435 commodities as an indicator of movement in prices of commodities in all trade and transactions.
- The prices are taken from wholesale market.
- It is also the price index which is available on a weekly basis.

- It has the shortest possible time lag of only two weeks as the data available in the current week is calculated on the basis of prices two weeks back.

Calculation of WPI

WPI is calculated on a base year. The WPI for the base year is pinned at 100.

Let's assume the base year to be 2004. The data of wholesale prices of all the 435 commodities in the base year and the time for which WPI is to be calculated is gathered.

Let's calculate WPI for the year 2010 for a particular commodity, say wheat. Assume that the price of a kilogram of wheat in 2004 = Rs 6.00 and in 2010 = Rs 6.50

The WPI of wheat for the year 2010 is calculated as follows:-

First calculate,

$((\text{Price of Wheat in 2010} - \text{Price of Wheat in 2004}) / \text{Price of Wheat in 2004}) \times 100$

i.e. $(6.50 - 6.00) / 6.00 \times 100 = 8.33$

Since WPI for the base year is assumed as 100, WPI for 2010 will become $100 + 8.33 = 108.33$.

In this way individual WPI values for the remaining 675 commodities are calculated and then the weighted average of individual WPI figures are found out to arrive at the overall Wholesale Price Index. It is to be noted that Commodities are given weightage depending upon its influence in the economy. Like weightage of petrol is lesser than that of diesel.

Inflation

Inflation rate of a country is the rate at which prices of goods and services increase in its economy. It is an indication of the rise in the general level of prices over time.

Since it's practically impossible to find out the average change in prices of all the goods and services traded in an economy (which would give comprehensive inflation rate) due to the sheer number of goods and services present, a sample set or a basket of goods and services is used to get an indicative figure of the change in prices, which we call the inflation rate.

Calculation of Inflation

Let us say that we have WPI for the beginning and the end of year.

Inflation rate for the year will be = $(\text{WPI of end of year} - \text{WPI of beginning of year}) / \text{WPI of beginning of year} \times 100$

For example,

Say, WPI on Jan 1st 2010 is 108.33

WPI on Jan 1st 2011 is 112.33

Therefore, inflation rate for the year 2011 = $(112.33 - 108.33) / 108.33 \times 100 = 3.69\%$.

That is to say that the inflation rate for the year 2011 is 3.69%.

Since WPI figures are available every week, inflation for a particular week (which usually means inflation for a period of one year ended on the given week) is calculated based on the above method using WPI of the given week and WPI of the week one year before. This is how we get weekly inflation rates in India.

3. Calculating Inflation Using the GDP Deflator

The other major price index used to determine the price level is the GDP deflator, a price index that shows how much of the change in the GDP from a base year is reliant on changes in the price level. The GDP deflator is calculated by dividing the nominal GDP by the real GDP

For example, let's calculate, using the table above, the GDP deflator for Country B in period 3 using period 1 as the base year. In order to find the GDP deflator, we first must determine both nominal GDP and real GDP in period 3. Nominal GDP in period 3 is $(10 \times \$2) + (9 \times \$6) = \$74$ and real GDP in period 3 using period 1 as the base year is $(10 \times \$1) + (9 \times \$6) = \$64$. The ratio of nominal GDP to real GDP is $(\$74 / \$64) - 1 = 16\%$. This means that the price level rose 16% from period 1, the base year, to period 3, the comparison year. Thus, the inflation rate from period 1 to period 3 was 16%. Notice that it is important to use the earlier year that you want to compare as the base year in the calculation of real GDP.

4. Producer Price Index:

Let's start first with the PPI or the Producer Price Index report. The PPI information is released by the US Department of Labor near the middle of each month--usually around the 9th to the 16th depending on the month--and it shows the amount of inflation or price increases at the production level, not the consumer level. What that means is that it measures prices that companies pay for commodities, or raw materials, that will then be produced into goods, like televisions, furniture, or other products you would buy in a store.

In this sense, the PPI number is seen as a leading indicator of future inflation that may make its way down to the consumer level at retail and online stores for actual products.

Supply Side Economics

Supply Side economics is the branch of economics that considers how to improve the productive capacity of the economy. It tends to be associated with Monetarist, free market economics. These economists tend to emphasise the benefits of making markets, such as labour markets more flexible. However, some supply side policies can involve government intervention to overcome market failure
Supply Side Policies are government attempts to increase productivity and shift Aggregate Supply (AS) to the right.

Supply-side objectives

Key concepts to focus on are incentives, enterprise, technology, mobility, flexibility and efficiency.

- 1.Improve incentives to look for work and invest in people's skills
- 2.Increase labour and capital productivity
- 3.Increase occupational and geographical mobility of labour to help reduce the rate of unemployment
- 4.Increase investment and research and development spending
- 5.Promoting more competition and stimulate a faster pace of invention and innovation to improve competitiveness
- 6.Provide a platform for sustained non-inflationary growth
- 7.Encourage the start-up and expansion of new businesses / enterprises especially those with export potential
- 8.Improve the trend rate of growth of real GDP

Benefits of Supply Side Policies

1. Lower Inflation.

Shifting AS to the right will cause a lower price level. By making the economy more efficient supply side policies will help reduce cost push inflation.

2. Lower Unemployment

Supply side policies can help reduce structural, frictional and real wage unemployment and therefore help reduce the natural rate of unemployment.

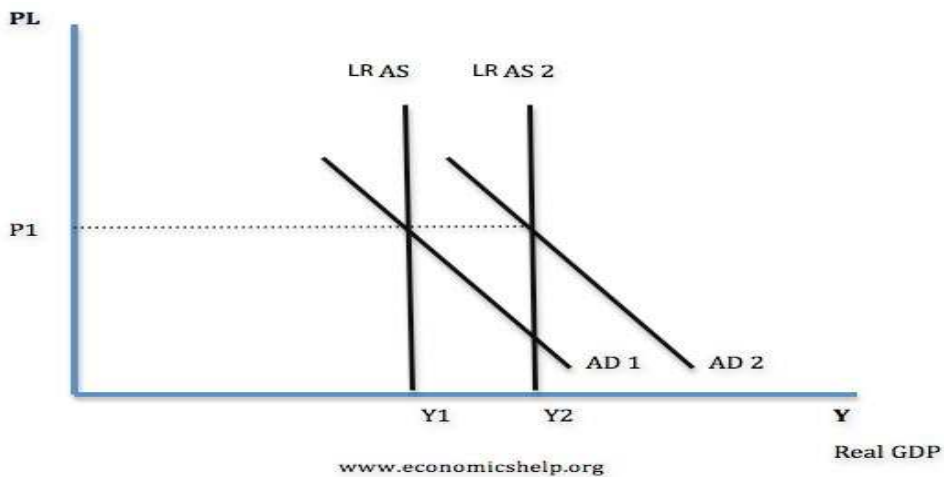
3. Improved economic growth

Supply side policies will increase the sustainable rate of economic growth by increasing AS.

4. Improved trade and Balance of Payments.

By making firms more productive and competitive they will be able to export more. This is important in light of the increased competition from S.E. Asia.

Diagram Showing effect of Supply Side Policies



Supply Side Policies

Most supply side policies aim to enable the free market to work more efficiently by reducing govt interference.

1. Privatisation.

This involves selling state owned assets to the private sector. It is argued that the private sector is more efficient in running business because they have a profit motive to reduce costs and develop better services.

See more on [Privatisation](#)

2. Deregulation

This involves reducing barriers to entry in order to make the market more competitive. For example BT used to be a Monopoly but now telecommunications is quite competitive. Competition tends to lead to lower prices and better quality of goods / service.

3. Reducing Income Taxes.

It is argued that lower taxes (income and corporation) increase the incentives for people to work harder, leading to more output. However this is not necessarily true, lower taxes do not always increase work incentives (e.g. if income effect outweighs substitution effect)

4. Increased education and training

Better education can improve labour productivity and increase AS. Often there is under-provision of education in a free market, leading to market failure. Therefore the government may need to subsidise suitable education and training schemes. However government intervention will cost money, requiring higher taxes, It will take time to have effect and government may subsidise the wrong types of training

5. Reducing the power of Trades Unions

This should a) increase efficiency of firms e.g. less time lost to strikes b) reduce unemployment (if labour markets are competitive)

6. Reducing State Welfare Benefits

This may encourage unemployed to take jobs.

7. Providing better information about jobs

This may also help reduce frictional unemployment

8. Deregulate financial markets to allow more competition and lower borrowing costs for consumers and firms.

9. Lower Tariff barriers this will increase trade

10. Removing unnecessary red tape and bureaucracy which add to a firms costs

11. Improving Transport and infrastructure.

Due to market failure this is likely to need govt intervention to improve transport and reduce congestion. This will help reduce firms costs.

12 Deregulate Labour Markets

This is said to be an important objective for the EU to increase competitiveness. E.g. Make it easier to hire and fire workers.

MONEY MARKET

Definition of Money

What is money? Money is any good that is widely used and accepted in transactions involving the transfer of goods and services from one person to another.

Economists differentiate among three different types of money: commodity money, fiat money, and bank money.

- Commodity money is a good whose value serves as the value of money. Gold coins are an example of commodity money. In most countries, commodity money has been replaced with fiat money.
- Fiat money is a good, the value of which is less than the value it represents as money. Dollar bills are an example of fiat money because their value as slips of printed paper is less than their value as money.
- Bank money consists of the book credit that banks extend to their depositors. Transactions made using checks drawn on deposits held at banks involve the use of bank money.

The money system is a significant improvement over the barter (item for item) system because while the former allowed trading between anyone who cared for money, the latter could only take place between parties with nearly equivalent marginal benefits of all traded goods (or otherwise, one side would be unwilling to make the trade).

Money is in two forms:

- Currency C - circulating money
- Deposits D - placed in banks and other depository institutions
 - Reserves R - the fraction of deposits that banks are required to hold on to

Functions of Money

Money is often defined in terms of the three functions or services that it provides. Money serves as a medium of exchange, as a store of value, and as a unit of account.

- Medium of exchange - as an object that is generally accepted as a form of payment, thereby increasing market flexibility
- Unit of account - a means of keeping track of how much something is worth (in barter systems, it becomes difficult to see how much a traded item is being traded for in terms of worth)
- Store of value - can be held and exchanged later for goods and services, at an approximate (though slowly changing) value

Medium of exchange: Money's most important function is as a medium of exchange to facilitate transactions. Without money, all transactions would have to be conducted by barter, which involves direct exchange of one good or service for another. The difficulty with a barter system is that in order to obtain a particular good or service from a supplier, one has to possess a good or service of equal value, which the supplier also desires. In other words, in a barter system, exchange can take place *only* if there is a double coincidence of wants between two transacting parties. The likelihood of a double coincidence of wants, however, is small and makes the exchange of goods and services rather difficult. Money effectively eliminates the double coincidence of wants problem by serving as a medium of exchange that is accepted in all transactions, by all parties, regardless of whether they desire each others' goods and services.

Store of value: In order to be a medium of exchange, money must hold its value over time; that is, it must be a store of value. If money could not be stored for some period of time and still remain valuable in exchange, it would not solve the double coincidence of wants problem and therefore would not be adopted as a medium of exchange. As a store of value, money is not unique; many other stores of value exist, such as land, works of art, and even baseball cards and stamps. Money may not even be the best store of value because it depreciates with inflation. However, money is more liquid than most other stores of value because as a medium of exchange, it is readily accepted everywhere. Furthermore, money is an easily transported store of value that is available in a number of convenient denominations.

Unit of account: Money also functions as a unit of account, providing a *common measure of the value* of goods and services being exchanged. Knowing the value or price of a good, in terms of money, enables both the supplier and the purchaser of the good to make decisions about how much of the good to supply and how much of the good to purchase.

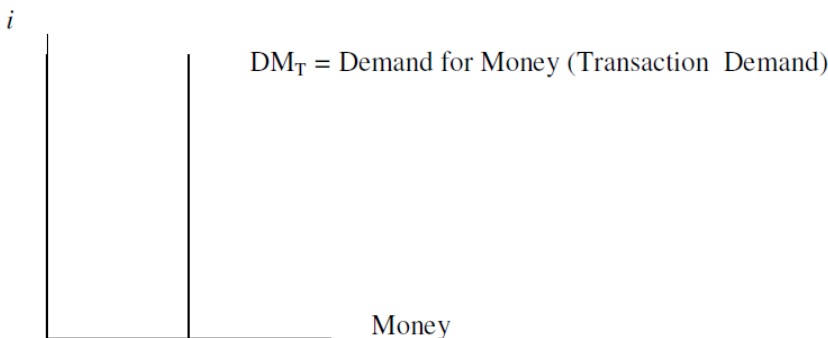
The Demand for Money

The demand for money is affected by several factors, including the level of income, interest rates, and inflation as well as uncertainty about the future. The way in which these factors affect money demand is usually explained in terms of the three motives for demanding money: the transactions, the precautionary, and the speculative motives.

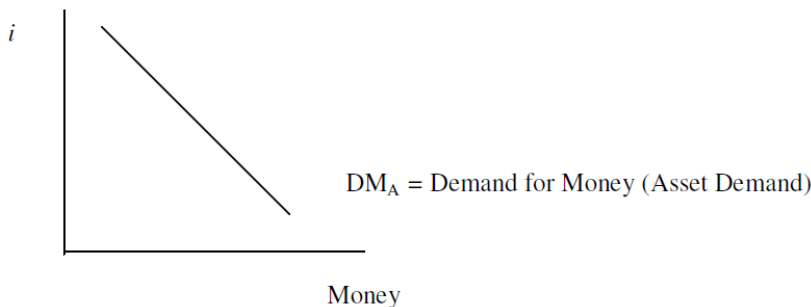
1. **Transactions motive.** The transactions motive for demanding money arises from the fact that most transactions involve an exchange of money. Because it is necessary to have money available for transactions, money will be demanded. The total number of transactions made in an economy tends to increase over time as income rises. Hence, as income or GDP rises, the transactions demand for money also rises.
2. **Precautionary motive.** People often demand money as a *precaution* against an uncertain future. Unexpected expenses, such as medical or car repair bills, often require *immediate payment*. The need to have money available in such situations is referred to as the precautionary motive for demanding money.
3. **Speculative motive.** Money, like other stores of value, is an asset. The demand for an asset depends on both its rate of return and its opportunity cost. Typically, money holdings provide *no* rate of return and often depreciate in value due to inflation. The opportunity cost of holding money is the interest rate that can be earned by lending or investing one's money holdings. The speculative motive for demanding money arises in situations where holding money is perceived to be *less risky* than the alternative of lending the money or investing it in some other asset.

For example, if a stock market crash seemed imminent, the speculative motive for demanding money would come into play; those expecting the market to crash would sell their stocks and hold the proceeds as money. The presence of a speculative motive for demanding money is also affected by *expectations of future interest rates and inflation*. If interest rates are expected to rise, the opportunity cost of holding money will become greater, which in turn diminishes the speculative motive for demanding money. Similarly, expectations of higher inflation presage a greater depreciation in the purchasing power of money and therefore lessen the speculative motive for demanding money.

Transactions Demand: We all require a certain amount of money each day to buy the things we need to buy - like lunch money. Our demand for money for transactions depends on the price level (if lunch costs more – we need more cash), but does not really depend on interest rates (no matter what savings accounts are offering as interest – the Big Mac Meal still costs \$4.50 – so we still need \$4.50 each day).

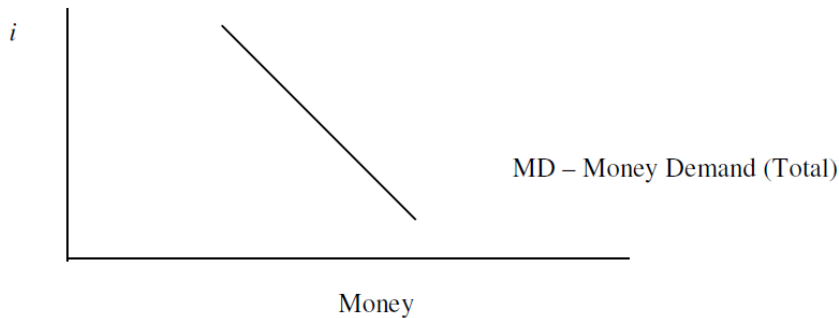


Asset Demand: The demand for money that depends on the interest rate on savings accounts (and other investments). The higher the rate of interest on the investment, the more of our money we want to stay invested (to get the most out of the high rate we want most of our money earning interest). If the interest rates are low – there is less opportunity cost of holding money as cash, so we hold more money as cash.



Asset Demand for Money is also known as the Speculative Demand for Money.

Total Money Demand: Adding the two types of Money Demand you get a curve that looks like the Asset Demand for Money curve – it reacts to the change in the interest rate. It is further to the right than Asset Demand because it also includes the money we demand for transactions.



SUPPLY OF MONEY

In economics, the money supply or money stock is the total amount of money available in an economy at a specific time. There are several ways to define "money," but standard measures usually include currency in circulation and demand deposits (depositor's easily accessed assets on the books of financial institutions)

M1: Currency in the hands of the public, checking account balances, and travelers' checks

M2: M1 plus savings account deposits, small-denomination time deposits (such as CDs), and money-market mutual fund shares

M3: M2 plus foreign deposits

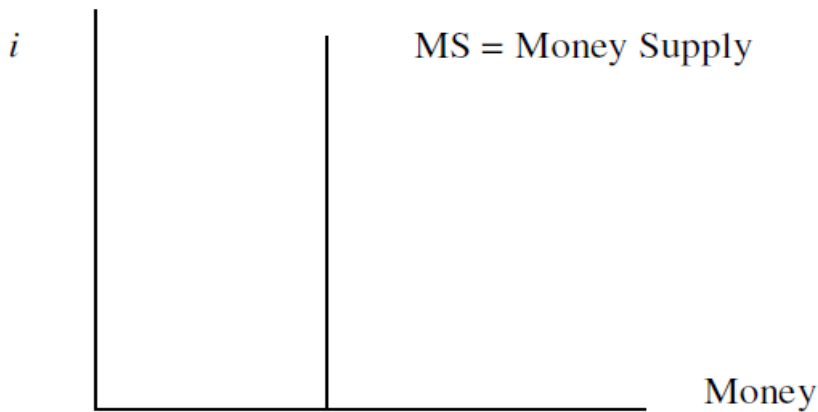
There are several definitions of the supply of money. $M1$ is narrowest and most commonly used. It includes all currency (notes and coins) in circulation, all checkable deposits held at banks (bank money), and all traveler's checks. A somewhat broader measure of the supply of money is $M2$, which includes all of $M1$ plus savings and time deposits held at banks. An even broader measure of the money supply is $M3$, which includes all of $M2$ plus large denomination, long-term time deposits—for example, certificates of deposit (CDs) in amounts over \$100,000. Most discussions of the money supply, however, are in terms of the $M1$ definition of the money supply.

The money supply is the amount of $M1$ in the economy (the *effective* money). The supply of money is determined by the Central Bank through '*monetary policy*'; the economy then has to make do with that set amount of money. Since the economy does not influence the quantity of money, money supply is considered perfectly vertical

Consequences of changing the Money Supply

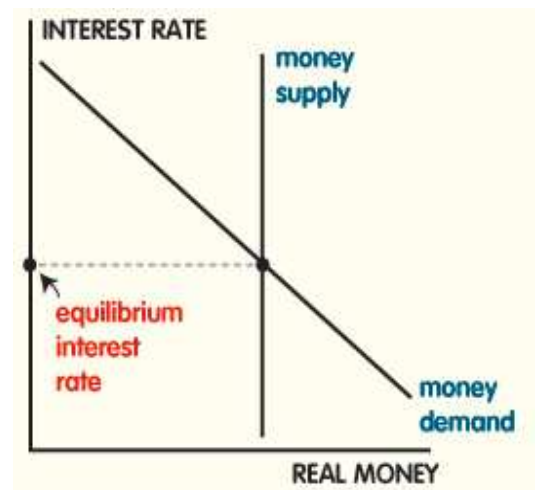
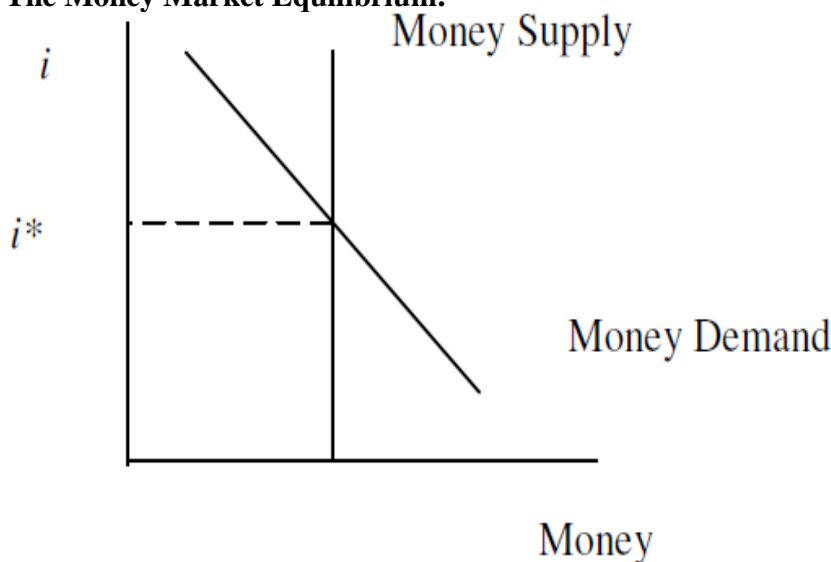
- Since increasing the money supply can affect AD, then ceteris paribus (cp.) inflation in prices will result at the same time as an increase in output, as can be shown on any supply and demand diagram. A central bank must decide whether the benefits of demand-side economic growth outweigh the costs of potential demand-pull inflation.
- This resultant inflation could cause the currency to depreciate against others, as fewer goods and services can be bought for the same nominal amount of money. This means that the exchange rate is lower, increasing the price of imports and increasing the competitiveness of exports with their associated effects on the economy!.

Why is the money supply curve drawn as a vertical straight line?



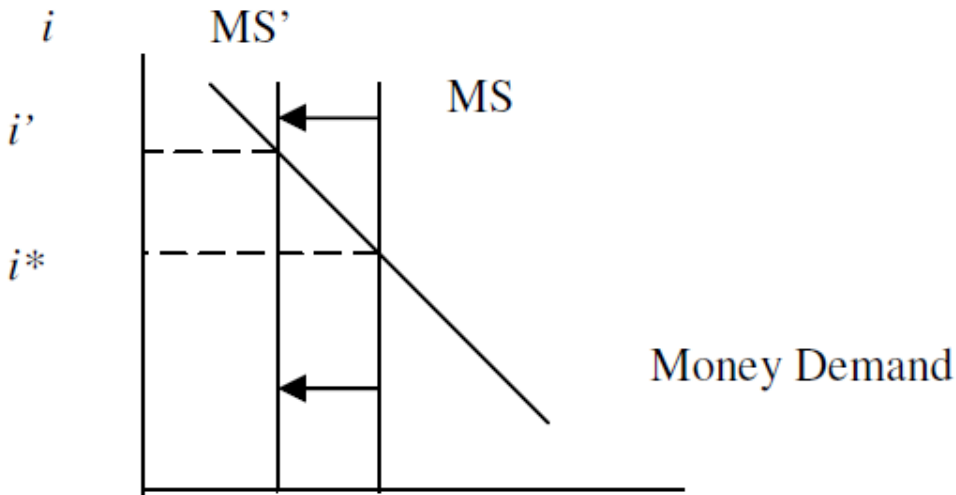
1. Because money supply is determined by the monetary policy (Federal Reserve System in USA) independent of the interest rate
2. Because it is independent of the money demand decided by the public
3. Because it is a fixed amount at the fixed interest rate
4. Because money supply is negatively related to the interest rate in USA

The Money Market Equilibrium:

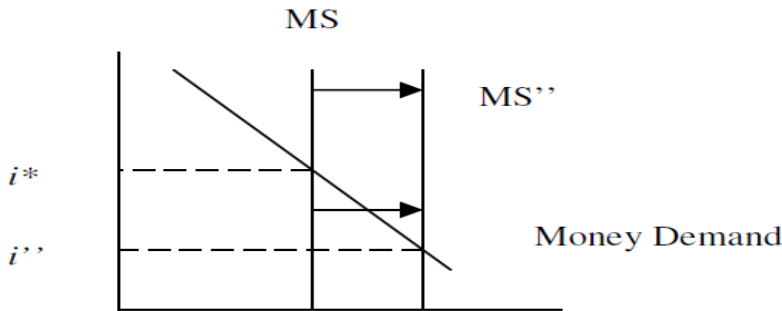


The Money Market equilibrium is the interaction of the Money Demand Curve and the Money Supply Curve. The intersection of these curves is the equilibrium point and determines the interest rate in the economy (i^*). ***Equilibrium in the money market occurs when the interest rate adjusts so that the quantity of money demanded equals the quantity of money supplied.***

Adjustment to a Decline in the Money Supply: If Money Supply decreases then the MS curve shifts left – and the new equilibrium is at a higher interest rate (i'). Why does the interest rate rise? As money becomes scarcer, banks need to attract money to the bank in order to make loans (and earn money). As people keep more money in the bank, they will have less on hand (the level of MD is lower).

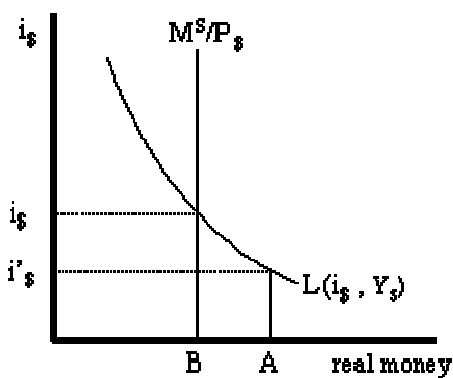


Adjustment to an Increase in the Money Supply: If the money supply increases (from MS to MS'') and the interest rate drops to i'' . What happens is that the flood of easy money makes it unnecessary for banks to offer high interest rates to attract money to make loans. They offer lower interest rates on savings and fewer dollars come to the bank (low opportunity cost of holding money).



Interest Rate too Low

Suppose that for some reason the actual interest rate, i'_s lies below the equilibrium interest rate, i_s , as shown on the adjoining diagram. At i'_s , real money demand is given by the value A along the horizontal axis, while real money supply is given by the value B. Since A is to the right of B, real demand for money exceeds the real money supply. This means that people and businesses wish to be holding more assets in a liquid, spendable form rather than holding assets in a less liquid form, such as in a savings account. This excess demand for money will cause households and businesses to convert assets from less liquid accounts into checking accounts or cash in their pockets. A typical transaction would involve a person who withdraws money from a savings account to hold cash in his wallet. The savings account balance is not considered a part of the M1 money supply, however the currency the person puts into his wallet is a part of the money supply. Millions of conversions such as this will be the behavioral response to an interest rate that is below equilibrium. As a result, the financial sector will experience a decrease in time deposit balances, which in turn will reduce their capacity to make



loans. In other words, withdrawals from savings and other type of non-money accounts will reduce the total pool of funds available to be loaned by the financial sector. With fewer funds to lend and the same demand for loans, banks will respond by raising interest rates. Higher interest rates will reduce the demand for loans helping to equalize supply and demand for loans. Finally, as interest rates rise, money demand falls until it equalizes with the actual money supply. Through this mechanism average interest rates will rise, whenever money demand exceeds money supply.

Interest Rate Too High

If the actual interest rate is higher than the equilibrium rate, for some unspecified reason, then the opposite adjustment will occur. In this case, real money supply will exceed real money demand meaning that the amount of assets or wealth people and businesses are holding in a liquid, spendable form is greater than the amount they would like to be holding. The behavioral response would be to convert assets from money into interest bearing non-money deposits. A typical transaction would be if a person deposits some of the cash in their wallet into their savings account. This transaction would reduce money holdings since currency in circulation is reduced, but will increase the amount of funds available to loan out by the banks. The increase in loanable funds, in the face of constant demand for loans, will inspire banks to lower interest rates to stimulate the demand for loans. However, as interest rates fall, the demand for money will rise until it equalizes again with money supply. Through this mechanism average interest rates will fall, whenever money supply exceeds money demand.

Money Market Instruments:

Money Market Instruments provide the tools by which one can operate in the money market. Money market instrument meets short term requirements of the borrowers and provides liquidity to the lenders. The most common money market instruments are Treasury Bills, Certificate of Deposits, Commercial Papers, Repurchase Agreements and Banker's Acceptance.

Treasury Bills (T-Bills): Treasury Bills are one of the safest money market instruments as they are issued by Central Government. They are zero-risk instruments, and hence returns are not that attractive. T-Bills are circulated by both primary as well as the secondary markets. They come with the maturities of 3-month, 6-month and 1-year. The Central Government issues T-Bills at a price less than their face value and the difference between the buy price and the maturity value is the interest earned by the buyer of the instrument. The buy value of the T-Bill is determined by the bidding process through auctions. At present, the Government of India issues three types of treasury bills through auctions, namely, 91-day, 182-day and 364-day.

Certificate of Deposits (CDs): Certificate of Deposit is like a promissory note issued by a bank in form of a certificate entitling the bearer to receive interest. It is similar to bank term deposit account. The certificate bears the maturity date, fixed rate of interest and the value. These certificates are available in the tenure of 3 months to 5 years. The returns on certificate of deposits are higher than T-Bills because they carry higher level of risk.

Commercial Papers (CPs): Commercial Paper is the short term unsecured promissory note issued by corporates and financial institutions at a discounted value on face value. They come with fixed maturity period ranging from 1 day to 270 days. These are issued for the purpose of financing of accounts receivables, inventories and meeting short term liabilities. The return on commercial papers is higher as compared to T-Bills so as the risk as they are less secure in comparison to these bills. It is easy to find buyers for the firms with high credit ratings. These securities are actively traded in secondary market.

Repurchase Agreements (Repo): Repurchase Agreements which are also called as Repo or Reverse Repo are short term loans that buyers and sellers agree upon for selling and repurchasing. Repo or Reverse Repo transactions can be done only between the parties approved by RBI and allowed only between RBI-approved securities such as state and central government securities, T-Bills, PSU bonds and corporate bonds. They are usually used for overnight borrowing. Repurchase agreements are sold by sellers with a promise of purchasing them back at a given price and on a given date in future. On the flip side, the buyer will also purchase the securities and other instruments with a promise of selling them back to the seller.

Banker's Acceptance: Banker's Acceptance is like a short term investment plan created by non-financial firm, backed by a guarantee from the bank. It's like a bill of exchange stating a buyer's promise to pay to the seller a certain specified amount at a certain date. And, the bank guarantees that the buyer will pay the seller at a future date. Firm with strong credit rating can draw such bill. These securities come with the maturities between 30 and

180 days and the most common term for these instruments is 90 days. Companies use these negotiable time drafts to finance imports, exports and other trade.

Monetary policy

What is the Monetary Policy?

The Monetary and Credit Policy is the policy statement, traditionally announced twice a year, through which the Reserve Bank of India seeks to ensure price stability for the economy.

These factors include - money supply, interest rates and the inflation. In banking and economic terms money supply is referred to as M3 - which indicates the level (stock) of legal currency in the economy.

Objectives of Monetary Policy

The objectives of a monetary policy in India are similar to the objectives of its five year plans. In a nutshell planning in India aims at growth, stability and social justice. After the **Keynesian revolution** in economics, many people accepted significance of monetary policy in attaining following objectives.

1. Rapid Economic Growth
2. Price Stability
3. Exchange Rate Stability
4. Balance of Payments (BOP) Equilibrium
5. Full Employment
6. Neutrality of Money
7. Equal Income Distribution

These are the general objectives which every central bank of a nation tries to attain by employing certain tools (Instruments) of a monetary policy. In India, the RBI has always aimed at the controlled expansion of bank credit and money supply, with special attention to the seasonal needs of a credit.

Instruments of Monetary Policy used by the RBI

Direct regulation:

Cash Reserve Ratio (CRR): Commercial Banks are required to hold a certain proportion of their deposits in the form of cash with RBI. CRR is the minimum amount of cash that commercial banks have to keep with the RBI at any given point in time. RBI uses CRR either to drain excess liquidity from the economy or to release additional funds needed for the growth of the economy.

For example, if the RBI reduces the CRR from 5% to 4%, it means that commercial banks will now have to keep a lesser proportion of their total deposits with the RBI making more money available for business. Similarly, if RBI decides to increase the CRR, the amount available with the banks goes down.

Statutory Liquidity Ratio (SLR): SLR is the amount that commercial banks are required to maintain in the form of gold or government approved securities before providing credit to the customers. SLR is stated in terms of a percentage of total deposits available with a commercial bank and is determined and maintained by the RBI in order to control the expansion of bank credit. For example, currently, commercial banks have to keep gold or government approved securities of a value equal to 23% of their total deposits.

Indirect regulation:

Repo Rate: The rate at which the RBI is willing to lend to commercial banks is called Repo Rate. Whenever commercial banks have any shortage of funds they can borrow from the RBI, against securities. If the RBI increases the Repo Rate, it makes borrowing expensive for commercial banks and vice versa. As a tool to control inflation, RBI increases the Repo Rate, making it more expensive for the banks to borrow from the RBI with a view to restrict the availability of money. The RBI will do the exact opposite in a deflationary environment when it wants to encourage growth.

Reverse Repo Rate: The rate at which the RBI is willing to borrow from the commercial banks is called reverse repo rate. If the RBI increases the reverse repo rate, it means that the RBI is willing to offer lucrative interest rate to commercial banks to park their money with the RBI. This results in a reduction in the amount of money available for the bank's customers as banks prefer to park their money with the RBI as it involves higher safety.

This naturally leads to a higher rate of interest which the banks will demand from their customers for lending money to them.

The RBI issues annual and quarterly policy review statements to control the availability and the supply of money in the economy. The Repo Rate has traditionally been the key **instrument of monetary policy** used by the RBI to fight inflation and to stimulate growth.

Open Market operations:

Monetary policy can be implemented by changing the size of the monetary base. Central banks use open market operations to change the monetary base. The central bank buys or sells reserve assets (usually financial instruments such as bonds) in exchange for money on deposit at the central bank. Those deposits are convertible to currency. Together such currency and deposits constitute the monetary base which is the general liabilities of the central bank in its own monetary unit. Usually other banks can use base money as a fractional reserve and expand the circulating money supply by a larger amount.

Reserve requirements

The monetary authority exerts regulatory control over banks. Monetary policy can be implemented by changing the proportion of total assets that banks must hold in reserve with the central bank. Banks only maintain a small portion of their assets as cash available for immediate withdrawal; the rest is invested in illiquid assets like mortgages and loans. By changing the proportion of total assets to be held as liquid cash, the Federal Reserve changes the availability of loanable funds. This acts as a change in the money supply. Central banks typically do not change the reserve requirements often because it creates very volatile changes in the money supply due to the lending multiplier.

Discount window lending:

Discount window lending is where the commercial banks, and other depository institutions, are able to borrow reserves from the Central Bank at a discount rate. This rate is usually set below short term market rates (T-bills). This enables the institutions to vary credit conditions (i.e., the amount of money they have to loan out), thereby affecting the money supply. It is of note that the Discount Window is the only instrument which the Central Banks do not have total control over.

By affecting the money supply, it is theorized, that monetary policy can establish ranges for inflation, unemployment, interest rates, and economic growth. A stable financial environment is created in which savings and investment can occur, allowing for the growth of the economy as a whole.

Interest rates

The contraction of the monetary supply can be achieved *indirectly* by increasing the nominal interest rates. Monetary authorities in different nations have differing levels of control of economy-wide interest rates. In the United States, the Federal Reserve can set the discount rate, as well as achieve the desired Federal funds rate by open market operations. This rate has significant effect on other market interest rates, but there is no perfect relationship. In the United States open market operations are a relatively small part of the total volume in the bond market. One cannot set independent targets for both the monetary base and the interest rate because they are both modified by a single tool — open market operations; one must choose which one to control.

In other nations, the monetary authority may be able to mandate specific interest rates on loans, savings accounts or other financial assets. By raising the interest rate(s) under its control, a monetary authority can contract the money supply, because higher interest rates encourage savings and discourage borrowing. Both of these effects reduce the size of the money supply.

Currency board

A currency board is a monetary arrangement that pegs the monetary base of one country to another, the anchor nation. As such, it essentially operates as a hard fixed exchange rate, whereby local currency in circulation is backed by foreign currency from the anchor nation at a fixed rate. Thus, to grow the local monetary base an equivalent amount of foreign currency must be held in reserves with the currency board. This limits the possibility for the local monetary authority to inflate or pursue other objectives. The principal rationales behind a currency board are threefold:

1. To import monetary credibility of the anchor nation;
2. To maintain a fixed exchange rate with the anchor nation;

3. To establish credibility with the exchange rate (the currency board arrangement is the hardest form of fixed exchange rates outside of dollarization).

Pros	Cons
Can be initiated immediately	Knowledge problems (regarding the current state of the economy; regarding the amount of an expansion or contraction needed, etc.)
No government budget deficits	Time lags (particularly response lags)
Expansionary policy leading to depreciating currency can stimulate exports (at least for businesses that do not rely on importing their inputs).	Can't direct the spending (to particular uses, e.g. infrastructure), and spending may be done in wasteful ways, e.g. speculation, mergers and acquisitions.
The Fed is theoretically insulated from the political process	Very low interest rates can foster speculative activities (such as Japan's yen carry trade.)
	Fed's change in interest rate is applied nationally – some areas in the country might not need the stimulus, while states with high unemployment might need the stimulus.
	Reluctant lenders (Banks may be unwilling to lend, especially if overwhelmed by bad loans on the books)
	Reluctant borrowers (pushing on a string) (Firms may be reluctant to borrow, especially if expectations of future sales and profits are low.)
	Limit of $r=0\%$, liquidity trap
	While government doesn't incur debt, the private sector is encouraged to borrow and take on debt.
	What if we have stagnation + inflation? Could exacerbate inflation