Module 1

Unit - 1

CONCEPTS AND DEFINITIONS

Unit Structure:

1.0 OBJECTIVES

- Introduction to macroeconomics
- To acquaint the students with concept of macroeconomics
- to study the scope and importance of macroeconomics
- to understand how circular flow of income takes place in closed & open economy
- To study leakages & injections of circular flow of income

1.1 INTRODUCTION

Macroeconomics is that part of economic theory which studies the economy in its totality or as a whole. It studies not individual economic units like a household, a firm or an industry but the whole economic system. Macroeconomics is the study of aggregates and averages of the entire economy. Such aggregates are national income, total employment, aggregate savings and investment, aggregate demand, aggregate supply general price level, etc.

Here, we study how these aggregates and averages of the economy as a whole are determined and what causes fluctuations in them. Having understood the determinants, the aim is how to ensure the maximum level of income and employment in a country. In short, macroeconomics is the study of national aggregates or economy-wide aggregates. In a way it is like study of economic forest as distinguished from trees that comprise the forest. Main tools of its analysis are aggregate demand and aggregate supply.

Since the subject matter of macroeconomics revolves around determination of the level of income and employment, therefore, it is also known as 'Theory of Income and Employment'. These days when the study of lakhs of individual units has become almost impossible and when government's participation through monetary and fiscal measures in the economy has increased very much, use of macro analysis has become indispensable. Correct economic policies formulated at macro level have made it possible to control business cycles (inflation and deflation) and as a result violent booms and depressions have become things of the past.

In a suitably modified form, macroeconomics is the basis of all plans of economic development of underdeveloped economies. Economists are now confidently exploring the possibilities and ways of maintaining economic growth and full employment. More than anything else, macroeconomic thought has enabled us to properly organise, collect and analyse the data about national income and coordinate international economic policies.

The scope of macroeconomics includes the following parts:

1. Theory of national Income
2. Theory of employment
3. Theory of money
4. Theory of general price level
5. Theory of economic growth

Clearly, the study of the problem of unemployment in India or general price level or problem of balance of payment is macroeconomic study because these relate to the economy as a whole.

1.2 IMPORTANCE OF MACROECONOMICS

1. It helps to understand the functioning of a complicated modern economic system. It describes how the economy as a whole functions and how the level of national income and employment is determined on the basis of aggregate demand and aggregate supply.

2. It helps to achieve the goal of economic growth, higher level of GDP and higher level of employment. It analyses the forces which determine economic growth of a country and explains how to reach the highest state of economic growth and sustain it.

3. It helps to bring stability in price level and analyses fluctuations in business activities. It suggests policy measures to control Inflation and deflation.

4. It explains factors which determine balance of payment. At the same time, it identifies causes of deficit in balance of payment and suggests remedial measures.

5. It helps to solve economic problems like poverty, unemployment, business cycles, etc., whose solution is possible at macro level only, i.e., at the level of whole economy.

6. With detailed knowledge of functioning of an economy at macro level, it has been possible to formulate correct economic policies and also coordinate international economic policies.

7. Last but not the least, is that macroeconomic theory has saved us from the dangers of application of microeconomic theory to the problems of the economy as a whole.

1.3 CIRCULAR FLOW OF INCOME

The circular flow of income is a way of representing the flows of money between the two main groups in society - producers (firms) and consumers (households). These flows are part of the fundamental process of satisfying human wants. As we have already seen, a free market economy consists of two components, or **sectors,** as they are called. These are **firms** and **households**. People in households work for firms (selling their factor services) and receive wages in exchange. On the scale of the whole economy, this is known as **national income** - the total amount of income earned over a given time period. This money is spent on food, clothing, transport, entertainment etc, and so it returns to the firms. This is the circular flow.

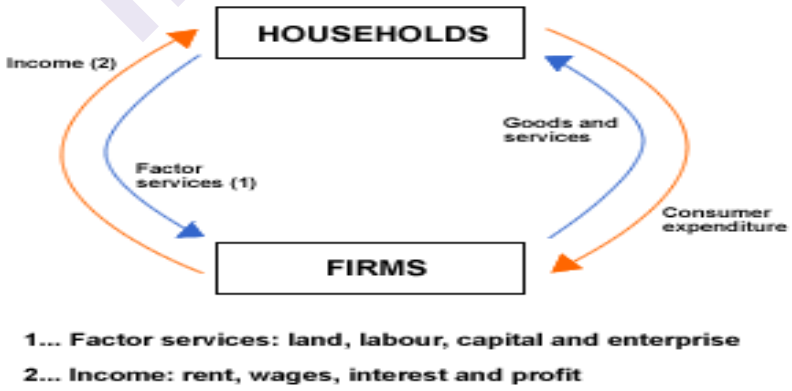


Fig.:1.1 Circular flow of Income

We can see this circular flow in Figure 9.1. Households sell their factor services to firms (in the factor markets) and in exchange receive wages (the left hand side of the flow). In the meantime, households spend this income on goods and services (in the goods

market) and in exchange receive the goods and service themselves (the right hand side of the flow). Economists call the wages plus the other forms of income, national income and give it the code '**Y**'. Domestic consumption is given the code '**C**'. Not all income is spent, however. Some is saved. Savings are coded as '**S**'. Other money is used to buy goods or services produced overseas. The money to buy these goods and services flows out of the country. It is given the code '**M**' for imports. **Savings (S)** and Imports (**M)** are called **leakages** from the circular flow. The effect of these leakages can be seen in Figure 1.2.

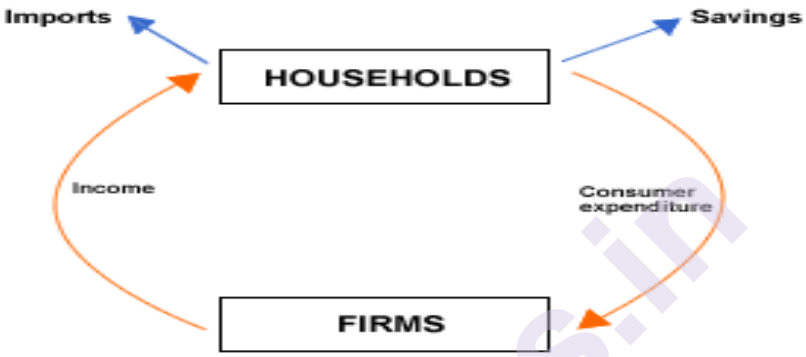


Fig.: 1.2 Circular flow with Savings & Imports

Leakage: A leakage is any income not passed on in the circular flow.

On the other hand, some firms make and sell exports overseas, and others borrow money and invest it in their firms in the form of capital goods. These are coded '**X**' for **exports** and '**I**' for **investment** and are called **injections** as the money returns into the circular flows. **Injection: An injection is any expenditure not originating in the household sector, including investment, government spending and exports.**

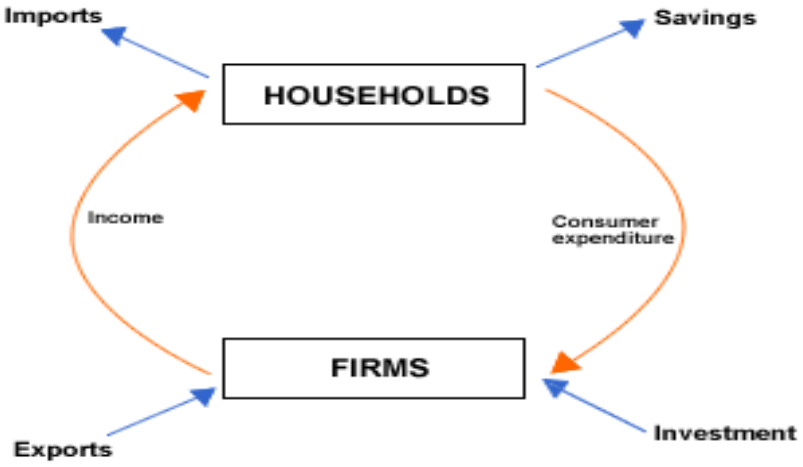


Figure 1.3 Circular flow - two sector, open economy

This is a 2-sector, open economy. The flow will be balanced and therefore in equilibrium when the injections are equal to the leakages. If the leakages are greater than the injections then national income will fall, while if injections are greater than leakages national income will rise. This starts to show us some possible policies to promote growth - policies that help boost exports or investment will lead to more injections into the circular flow and therefore boost national income.

We called the economy illustrated in Figure 1.3 an open economy because it is open to trade with the outside world. If it did not trade outside of itself, we would call it a 2-sector, closed economy. In almost all economies, the government plays an active part. It taxes us, **T**, and uses this money to finance its spending. Even though this partly goes to pay themselves and their bureaucracy, as well as funding schools and hospitals, it finds its way back into the flow. This spending is coded as '**G**' for government expenditure. Add this to the earlier model and we get the model of a 3-sector, open economy, the most common type of economy in the real world. We can see the circular flow for this economy in Figure 9.4 below.

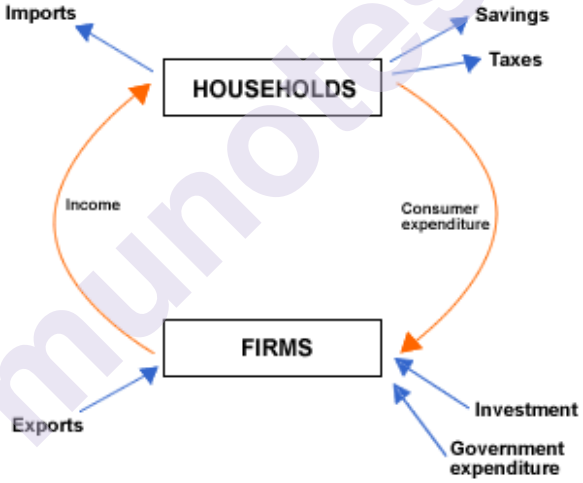


Figure 1.4 Circular flow in 3 sector open economy

We could also represent the government separately in this circular flow - here's an alternative representation of Figure 9.4. It shows exactly the same flows, but represents them a little differently.

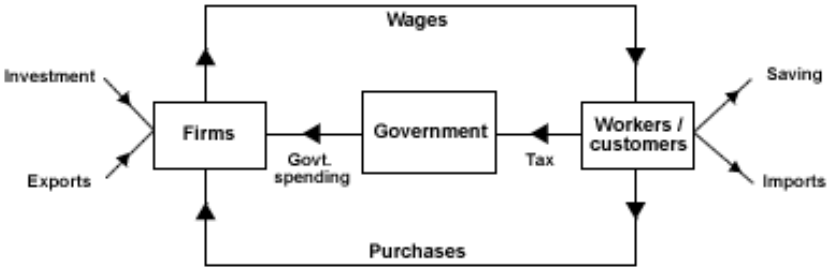


Figure 1.5 Circular flow - 3 sector, open economy

The **leakages** from the circular flow are:

- Savings (S)
- Taxation (T)
- Purchase of imported goods and services (M) (goods and services in but money out –Indian firms pay overseas ones)

The **injections** are

- Investment (I) - expenditure on capital goods
- Sale of exports (X) (goods and services out, but money now flows in)
- Government Expenditure (G)

An economy is in equilibrium when injections match the leakages.

The standard codes used in this model, and in economics in general are:
Y = National Income
C = Domestic Consumption
S = Savings
M = Imports
T = Taxation
I = Investment
X = Exports
G = Government Spending

The circular flow model of an economy is very useful within the study of economics. We will be looking at the actions and behaviour of firms and households, and how governments interact with them. We will look at how changes in the leakages and injections affect the stability of an economy.

1.4 IMPORTANCE OF THE CIRCULAR FLOW

The concept of the circular flow gives a clear-cut picture of the economy. We can know whether the economy is working efficiently or whether there is any disturbance in its smooth functioning. As such, the circular flow is of immense significance for studying the functioning of the economy and for helping the government in formulating policy measures.

1. Study of Problems of Disequilibrium:

It is with the help of circular flow that the problems of disequilibrium and the restoration of equilibrium can be studied.

2. Effects of Leakages and Inflows:

The role of leakages enables us to study their effects on the national economy. For example, imports are a leakage out of the

circular flow of income because they are payments made to a foreign country. To stop this leakage, government should adopt appropriate measures so as to increase exports and decrease imports.

3. Link between Producers and Consumers:

The circular flow establishes a link between producers and consumers. It is through income that producers buy the services of the factors of production with which the latter, in turn, purchase goods from the producers.

4. Creates a Network of Markets:

As a corollary to the above point, the linking of producers and consumers through the circular flow of income and expenditure has created a network of markets for different goods and services where problems relating to their sale and purchase are automatically solved.

5. Inflationary and Deflationary Tendencies:

Leakages or injections in the circular flow disturb the smooth functioning of the economy. For example, saving is a leakage out of the expenditure stream. If saving increases, this depresses the circular flow of income. This tends to reduce employment, income and prices, thereby leading to a deflationary process in the economy. On the other hand, consumption tends to increase employment, income, output and prices that lead to inflationary tendencies.

6. Basis of the Multiplier:

Again, if leakages exceed injections in the circular flow, the total income becomes less than the total output. This leads to a cumulative decline in employment, income, output, and prices over time. On the other hand, if injections into the circular flow exceed leakages, the income is increased in the economy. This leads to a cumulative rise in employment, income, output, and prices over a period of time. In fact, the basis of the Keynesian multiplier is the cumulative movements in the circular flow of income.

7. Importance of Monetary Policy:

The study of circular flow also highlights the importance of monetary policy to bring about the equality of saving and investment in the economy. Figure 2 shows that the equality between saving and investment comes about through the credit or capital market.

The credit market itself is controlled by the government through monetary policy. When saving exceeds investment or investment exceeds saving, money and credit policies help to

stimulate or retard investment spending. This is how a fall or rise in prices is also controlled.

8. Importance of Fiscal Policy:

The circular flow of income and expenditure points toward the importance of fiscal policy. For national income to be in equilibrium desired saving plus taxes (S+T) must equal desired investment plus government spending (I + G). S+ T represents leakages from the spending stream which must be offset by injections of I + G into the income stream. If S + T exceed I + G, government should adopt such fiscal measures as reduction in taxes and spending more itself. On the contrary.

If I + G exceed S+T, the government should adjust its revenue and expenditure by encouraging saving and tax revenue. Thus the circular flow of income and expenditure tells us about the importance of compensatory fiscal policy.

9. Importance of Trade Policies:

Similarly, imports are leakages in the circular flow of money because they are payments made to a foreign country. To stop it, the government adopts such measures as to increase exports and decrease imports. Thus the circular flow points toward the importance of adopting export promotion and import control policies.

10. Basis of Flow of Funds Accounts:

The circular flow helps in calculating national income on the basis of the flow of funds accounts. The flow of funds accounts are concerned with all transactions in the economy that are accomplished by money transfers.

1.5 QUESTIONS

1. Explain the meaning, scope and importance of Macroeconomics.
2. Discuss the concept of circular flow of national income.
3. What is the importance of circular flow of income?
4. Discuss circular flow of income in a closed economy.
5. Explain the circular flow of income in an open economy.

Unit - 2

GROSS DOMESTIC PRODUCT (GDP) & TRENDS IN GDP'S GROWTH RATE

Unit Structure:

2.0 OBJECTIVES

- To familiar with concept of GDP, GNP, NNP, NDP etc.
- To acquaint the students with concept of GDP deflator
- To study the GDP at Purchasing Power Parity& exchange rate as price
- to understand India's experience in GDP growth in recent years
- To study the trends & sectoral composition of GDP in India

2.1 INTRODUCTION

Gross Domestic Product or GDP, is the value of everything that is produced within the country's domestic territory in a particular financial year. During the calculation of GDP, the primary

focus is to capture the goods produced or services rendered within the nation's border, whether the output is produced by the residents or non-residents of the country. The output produced outside the geographical boundaries of the country is not included in GDP.

GDP is an indicator of the size of the economy. It reflects the aggregate of consumption, investments, spending by the government and net export (export – import). In general, the GDP is calculated for one year. However, it can also be calculated for any term to forecast economic trends.

Calculation of GDP:

GDP = Consumption + Investment + Government Spending + Net Export

GDP = C + I + G+ (X-M)

2.2 DEFINITION OF GNP

Gross National Product or GNP is the total market value of everything (i.e. goods and services) produced by the residents of the country during a particular accounting year.

GNP includes the income earned by the country's nationals within and outside the country, but it excludes the income earned by the foreign citizens and companies within the country. You can understand the statement, through an example: There are many enterprises which are operating outside the country. Many citizens of a country work in another country. The income earned by all these persons is known as factor income earned from abroad. Likewise, non-residents render factor services within the domestic territory of the country for which they earn income. When you deduct the factor income paid to non-residents for rendering services from factor income received from abroad, the result will be the Net Factor Income received from Abroad (NFIA).

GNP = GDP +NFIA or GNP = C + I + G+ (X-M) + (R-P)

R= Income received by domestic factors for their contribution to production abroad;

P= Payments made to the foreign factors for their contribution to production in the domestic economy.

2.3 KEY DIFFERENCES BETWEEN GDP AND GNP

Basis for Comparison	GDP	GNP
Meaning	The worth of goods and services produced within the geographical limits of the country is known as Gross Domestic Product (GDP).	The worth of goods and services produced by the country's citizens irrespective of the geographical location is known as Gross National Product (GNP).
What is it?	Production of products within the country's boundary.	Production of products by the enterprises owned by the residents of the country
Basis	Location	Citizenship
Calculation	GDP = Consumption + Investment + Government Spending + Net Export	GNP = C + I + G+ (X-M) + (R-P)
On which scale productivity is measured?	On a local scale	On international scale
Focus on	Domestic production	Production by nationals
Outlines	The strength of the country's domestic economy.	How the residents are contributing towards the country's economy.

2.4 NET NATIONAL PRODUCT

Net national product (NNP) is the monetary value of finished goods and services produced by a country's citizens, overseas and domestically, in a given period (i.e., the gross national product (GNP) minus the amount of GNP required to purchase new goods to maintain existing stock (i.e., depreciation).

Calculating NNP:
The formula for NNP is:
NNP = Market Value of Finished Goods + Market Value of Finished Services - Depreciation
or, NNP can be calculated as
NNP = Gross National Product - Depreciation

Similarly, net domestic product (NDP) corresponds to gross domestic product (GDP) minus depreciation.

NDP = GDP – Depreciation

2.5 GDP DEFLATOR

In economics, the **GDP deflator** (**implicit price deflator**) is a measure of the level of prices of all new, domestically produced, final goods and services in an economy. GDP stands for gross domestic product, the total monetary value of all final goods and services produced within the territory of a country over a particular period of time (quarterly or annually).

Like the consumer price index (CPI), the GDP deflator is a measure of price inflation/deflation with respect to a specific base year; the GDP deflator of the base year itself is equal to 100. Unlike the CPI, the GDP deflator is not based on a fixed basket of goods and services; the "basket" for the GDP deflator is allowed to change from year to year with people's consumption and investment patterns.

The Gross Domestic Product (GDP) deflator is a measure of general price inflation. It is calculated by dividing nominal GDP by real GDP and then multiplying by 100. Nominal GDP is the market value of goods and services produced in an economy, unadjusted for inflation (It is the GDP measured at current prices). Real GDP is nominal GDP, adjusted for inflation to reflect changes in real output (It is the GDP measured at constant prices).

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

2.6 IMPORTANCE OF GDP DEFLATOR

There are other measures of inflation too like Consumer Price Index (CPI) and Wholesale Price Index (or WPI); however GDP deflator is a much broader and comprehensive measure. Since Gross Domestic Product is an aggregate measure of production, being the sum of all final uses of goods and services (less imports), GDP deflator reflects the prices of all domestically produced goods and services in the economy whereas, other

measures like CPI and WPI are based on a limited basket of goods and services, thereby not representing the entire economy (the basket of goods is changed to accommodate changes in consumption patterns, but after a considerable period of time). Another important distinction is that the basket of WPI (at present) has no representation of services sector. The GDP deflator also includes the prices of investment goods, government services and exports, and excludes the price of imports. Changes in consumption patterns or the introduction of new goods and services or structural transformation are automatically reflected in the deflator which is not the case with other inflation measures.

However WPI and CPI are available on monthly basis whereas deflator comes with a lag (yearly or quarterly, after quarterly GDP data is released). Hence, monthly change in inflation cannot be tracked using GDP deflator, limiting its usefulness.

2.6.1 Statistics

Ministry of Statistics and Programme Implementation (MOSPI) comes out with GDP deflator in National Accounts Statistics as price indices. The base of the GDP deflator is revised when base of GDP series is changed.

India GDP Deflator 2005-2018

GDP Deflator in India increased to 128.80 Index Points in 2018 from 125.10 Index Points in 2017. GDP Deflator in India averaged 118.39 Index Points from 2005 until 2018, reaching an all-time high of 146.50 Index Points in 2011 and a record low of 100 Index Points in 2005.

2.7 EXCHANGE RATE AS PRICE

In finance, an **exchange rate** is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in relation to another currency. An

exchange rate is the price of a nation's currency in terms of another currency. Thus, an exchange rate has two components, the domestic currency and a foreign currency, and can be quoted either directly or indirectly. In a direct quotation, the price of a unit of foreign currency is expressed in terms of the domestic currency. In an indirect quotation, the price of a unit of domestic currency is expressed in terms of the foreign currency. Exchange rates are quoted in values against the US dollar. However, exchange rates can also be quoted against another nations currency, which are known as a cross currency, or cross rate.

Exchange rates can be floating or fixed. A floating exchange rate is where a currency rate is determined by market forces. This is the norm for most major nations. However, some nations prefer to fix or peg their domestic currencies to a widely accepted currency like the US dollar. Reasons for fixing an exchange rate can be to reduce volatility or better manage trade relations.

2.8 PURCHASING POWER PARITY

The theory aims to determine the adjustments needed to be made in the exchange rates of two currencies to make them at par with the purchasing power of each other. In other words, the expenditure on a similar commodity must be same in both currencies when accounted for exchange rate. The purchasing power of each currency is determined in the process.
Description: Purchasing power parity is used worldwide to compare the income levels in different countries. PPP thus makes it easy to understand and interpret the data of each country.

Example: Let's say that a pair of shoes costs Rs 2500 in India. Then it should cost $50 in America when the exchange rate is 50 between the dollar and the rupee.

There are two ways to measure GDP (total income of a country) of different countries and compare them. One way, called GDP at exchange rate, is when the currencies of all countries are converted into USD (United States Dollar). The second way is GDP (PPP) or GDP at **Purchasing Power Parity** (**PPP)**The concept of purchasing power parity allows one to estimate what the exchange rate between two currencies would have to be in order for the exchange to be at par with the purchasing power of the two countries' currencies. Using that PPP rate for hypothetical currency conversions, a given amount of one currency thus has the same purchasing power whether used directly to purchase a market basket of goods or used to convert at the PPP rate to the other currency and then purchase the market basket using that currency. Observed deviations of the exchange rate from purchasing power

parity are measured by deviations of the real exchange rate from its PPP value of 1.

How to Calculate Purchasing Power Parity

The relative version of PPP is calculated with the following formula:

$$S = \frac{P_1}{P_2}$$

Where:S represents exchange rate of currency 1 to currency 2

P_1 represents the cost of good x in currency 1

P_2 represents the cost of good x in currency 2

Uses

Purchasing Power Parity (PPP) is measured by finding the values (in USD) of a basket of consumer goods that are present in each country (such as pineapple juice, pencils, etc.). If that basket costs $100 in the US and $200 in India, then the purchasing power parity exchange rate is 1:2.

2.9 PROBLEMS OF MEASURING GDP IN PPP

1. Purchasing Power Parity. When comparing living standards between different countries, it is important to take into account different purchasing power parity's (PPP) – GDP per capita in $ terms does not necessarily reflect the local purchasing power of a country.
2. Economic activity not measured. Some countries may have large 'black market' or economic activity that isn't measured by official statistics.
3. Externalities of growth. Higher GDP suggests higher living standards, but higher economic growth may be at the cost of increased pollution and congestion. This leads to a decline in living standards (poor health from pollution, time wasted from congestion).
4. Hours worked Two countries may have similar GDP, but if one country has an average hourly week of 60 hours worked, this suggests lower living standards than a country which has an average of only 40 hours per week.
5. Poverty. Living standards need to take into account how income and expenditure are distributed through society. A country may have high GDP per capita but still have significant poverty. Other measures of living standards, such as Human Development Index (HDI), try to include these factors.
6. Intangibles. Living standards are not just about consumption of goods and services. Arguably a key factor in living standards is issues such as a degree of individual liberty/democracy and

freedom. This becomes difficult to quantify from an economic perspective.

7. Literacy. Access to education is considered an important aspect of living standards. Without education, people will struggle to obtain their potential and their human capital will be lower. Education can also improve living standards in non-monetary ways – enjoying a greater degree of culture
8. What do we mean by living standards? Some may think of living standards through financial measures (e.g. income etc.). Others may place less emphasis on this and focus on issues such as the environment, 'general well-being' and levels of happiness.

2.10 GDP GROWTH

The GDP growth rate measures how fast the economy is growing. It does this by comparing one quarter of the country's gross domestic product to the previous quarter. GDP measures the economic output of a nation.

Economic growth is the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP.

The "rate of economic growth" refers to the geometric annual rate of growth in GDP between the first and the last year over a period of time. Implicitly, this growth rate is the trend in the average level of GDP over the period, which implicitly ignores the fluctuations in the GDP around this trend.

The GDP growth rate is driven by the four components of GDP. The main driver of GDP growth is personal consumption. This includes the critical sector of retail sales. The second component is business investment, including construction and inventory levels. Government spending is the third driver of growth. Its largest categories are Social Security benefits, defence spending and Medicare benefits. The government often increases spending to jumpstart the economy during a recession. Fourth is net trade: Exports add to GDP while imports subtract from it.

2.11 WHY THE GDP GROWTH RATE IS IMPORTANT

The GDP growth rate is the most important indicator of economic health. It changes during the four phases of the business cycle: peak, contraction, trough, and expansion. When the economy is expanding, the GDP growth rate is positive. If it's growing, so will businesses, jobs and personal income. But if it

expands beyond 3-4 percent, then it could hit the peak. At that point, the bubble bursts and economic growth stalls.

If it's contracting, then businesses will hold off investing in new purchases. They'll delay hiring new employees until they are confident the economy will improve. Those delays further depress the economy. Without jobs, consumers have less money to spend.

If the GDP growth rate turns negative, then the country's economy is in a recession. With negative growth, GDP is less than the quarter or year before. It will continue to be negative until it hits a trough. That's the month things start to turn around. After the trough, GDP turns positive again.

Contraction happened most recently in late 2008 and early 2009. U.S. GDP growth was negative for four quarters in a row. The last time this happened was during the Great Depression. The growth rate turned positive in Q2 2008. It then turned negative again, prompting concerns about a double-dip recession. In the 2001 recession, the growth rate had been negative for only two quarters.

2.12 INDIA'S EXPERIENCE IN GDP GROWTH

National Income Trends:

Table 12.5: Growth Rates (NNP at factor Cost) Achieved in Successive Plan Period

	Period	Growth rate (per cent)
First Plan	(1951-56)	3.7
Second Plan	(1956-61)	4.0
Third Plan	(1961-66)	2.8
Three Annual Plans	(1966-69)	3.9
Fourth Plan	(1969-74)	3.4
Fifth Plan	(1974-79)	5.0
Annual Plans	(1979-80)	–5.0
Sixth Plan	(1980-85)	5.4
Seventh Plan	(1985-90)	5.5
Eighth Plan	(1992-97)	6.6
Ninth Plan	(1997-02)	5.5
Tenth Plan	(2002-07)	7.8

Features of Growth in the Planning Era:

From the above description, one can point out several features of growth during the planning period.

First, the growth rates of national income and per capita income over the last 58 years have been encouraging, particularly in the light of the growth rates achieved during the British period. But, at the same time it is to be noted that the actual performance has been below the targets set.

Barring the First, Seventh, Eighth, Ninth and Tenth Plan, actual growth rate remained below the target growth rate. In the First Plan, actual growth rate (3.6 p.c.) exceeded the targeted (2.5 p.c.) rate. In all the plans, targeted growth rate was kept at 5 p.c. or 5.5 p.c. The actual growth rate achieved in various plans has been shown in the Table 10.1. As is expected, the economy must grow at a higher rate as plan period rolls on. The annual growth rate for the period 1981-91 works out to be 5.75 p.c. and for the period 1993-07 it is 7.5 p.c.

Obviously, if these growth rates are explained in real terms (i.e., at constant prices) the annual growth would be much below the targeted rates of 6.0 and 6.5 p.c. Secondly, per capita income is also very small by current standards though it is rising. Unimpressive growth rate of national income over the plan period has resulted in a marginal increase in per capita income. It is observed that, out of 58 years of economic planning, the rate of increase in NNP was lower than the population growth rate for more than 22 years. As a result, per capita income registered a decline in all these years.

Even there are some years when the country has suffered economic retrogression. Consequently, levels of living of the poor have gone down to a low level. This can be evidenced from the fact that in 2004- 05 27.5 p.c. of total population lived below the poverty line compared to 36 p.c. in 1993-94.This poverty estimate has been made on consumption distribution using a 30-day recall—called Uniform Recall Period (URP). However, poverty estimates based on Mixed Recall Period (MRP) has declined from 26.1 p.c. in 1999-2000 to 21.8 p.c. in 2004- 05.

Thirdly, India's national income, even after 58 years of planning, is largely dependent on agriculture. Good harvests result in higher growth rates in income and bad harvests cause a fall or even negative growth rate. So India's growth rate of national income is very much linked with the agricultural growth rate. In recent years, tertiary sector has been contributing largely. Fourthly, compared to the growth rates of different countries between 1950-1980, India's performance is rather disappointing. At the moment, world's highest per capita income country is Norway whose per capita income was equivalent of $ 66,530 in 2006. India's per capita income was of the order of $ 820. Burundi ranked lowest

among the 133 members of the World Bank with a 2006 annual per capita income of just $ 100.

Hence the necessity of raising the growth rate arises to close the increasing gap between developed countries and India and even between India and other underdeveloped nations of the world whose growth rates are higher than India. Again, as far as per capita income trends are concerned, one notices favourable change also. There was a break in the Sixth Plan when per capita income rose by 3.1 p.c. p.a. In the Seventh Plan, it rose further to 3.3 p.c. p.a., in the Eighth Plan, to 4.5 p.c. p.a., and to a high of 6.1 p.c. p.a. in the Tenth Plan.

This is not a mean achievement against the background of population growth rate of approximately 2 p.c. Between 1990-01, per capita income grew at the rate of 3.14 p.c. p.a. This amounts to saying that in the 1990s and early 2000s number of people living below the poverty line is on the decline. Even then roughly after 58 years of planning nearly 260 million population live below the poverty line by any measure. Sectoral composition of national income between 1950 and 1980-81 clearly showed predominance of the primary sector in terms of its contribution towards GDP. Its share was 38.1 p.c. as contrasted to 36 p.c. of the tertiary sector in 1981.

In 2007-08, the relative share of primary sector declined to 19.4 p.c. of GDP, while the share of the tertiary sector rose to 55.7 p.c. This suggests a progressive development of the Indian economy. Finally, India's performance is not altogether discouraging if she is compared with other nations though India's per capita income is one of the lowest in .the world. India's average annual GNP per capita between 1985 and 2006 grew at the rate of 7.4 p.c. as contrasted to the U.S.A's and U.K's 1.3 p.c.

However, China performed much better than India. Its GDP per capita during the same period grew at the rate of 9.8 p.c. In recent years, growth rates in all the economies have slumped down due to global recession. Now, we may sum up the main points. We have registered a higher growth rate in national income and per capita income —an improvement over the Hindu rate of growth of 3.5 p.c. during the previous three decades. The query is whether such high growth can be sustained or not. Sustainability of higher growth rate for a long period is of utmost importance.

However, after the initiation of economic reforms process in 1991, the country is poised for higher economic growth. Between 1992-93 and 2001-02, GDP grew at an average annual rate of 6.1 p.c. Although, the GDP growth rate declined to 5.3 p.c. in 2002-03, it increased to around 8.5 p.c. in 2003-04 and 9.2 p.c. in 2006-

07.Thus, an air of optimism prevails. It is hoped that sustainable growth on a long-term basis has been achieved against some unexpected shocks like the East Asian crisis, global recession, unprecedented rise in international oil prices, Indo-Pak border tension, severe natural calamities, the Iraq war, etc.

Above all, there is some sort of macroeconomic stability (like low rate of inflation, reasonable stable exchange rate, high foreign exchange reserves, and adequate stocks of food grains even in the midst of drought). It may not be out of place to point out here that the primary objective of the New Economic Policy was to put the Indian Economy on a sustainable high growth path.

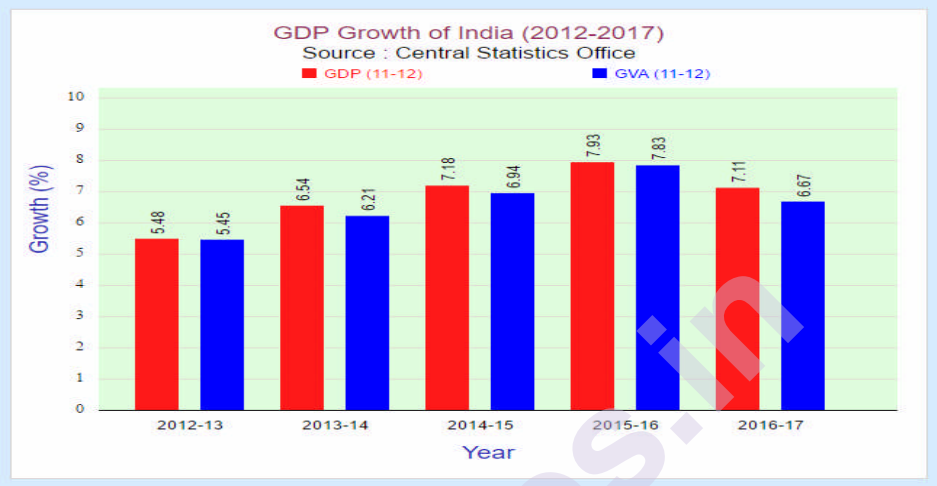
Real GDP growth or Gross Domestic Product (GDP) growth of India at constant (2011-12) prices in the year 2016-17 is estimated at 7.11 percent as compared to the growth rate of 7.93 percent in 2015-16. Quarterly GDP growth rates are :Q1 (7.2%), Q2 (7.4%), Q3 (7.0%).

Gross Value Added (GVA) growth rates of Agriculture & allied, Industry, and Services sector are 4.37%, 5.77%, and 7.87%, respectively. Manufacturing growth is at 7.7%. India has registered highest growth of 11.2% in 'Public Administration, defence and other services' sector and lowest 1.3% in 'Mining & quarrying' sector. At current prices, GDP growth rates for year 2016-17 is 11.52%. Growth for Q1, Q2, Q3 are 10.8%, 11.8%, 10.6%, respectively. GVA growth rates of Agriculture & allied, Industry, and Services sector are 9.64%, 8.32%, and 11.87%, respectively. At constant prices GVA (Gross Value Added), GNI (Gross National Income), NNI (Net National Income) growth of India is estimated at 6.67%, 7.17% and 7.24%, respectively. At current prices these figures is 10.43%, 11.60% and 11.61%.

Data from 1950-51 to 2011-12 is from 2004-05 series and 2011-12 to 2014-15 is from 2011-12 series. According to IMF World Economic Outlook (October-2016), GDP growth rate of India in 2016 is 7.6% and India is 4th fastest growing nation of the world. Average growth rate from 1980 to 2016 stands at 6.32%, reaching an all-time high of 10.26% in 2010 and a record low of 1.06% in the 1991.In previous methodology, Average growth rate from 1951 to 2014 stands at 4.96%, reaching an all-time high of 10.16% in 1988-89 and a record low of -5.2% in the 1979-80. In 4 years, Growth was negative.

2011-2012 Series

Year	Growth at 2011-12 prices				Growth at Current prices			
	GDP	GVA	GNI	NNI	GDP	GVA	GNI	NNI
2016-17	7.11	6.67	7.17	7.24	11.52	10.43	11.60	11.61
2015-16	7.93	7.83	7.93	7.96	9.99	8.56	10.00	10.24
2014-15	7.18	6.94	7.25	7.17	10.65	10.65	10.72	10.71
2013-14	6.54	6.21	6.46	6.16	12.97	12.61	12.89	12.90
2012-13	5.48	5.45	5.17	4.59	13.86	13.55	13.52	13.28



2.13 SECTOR-WISE CONTRIBUTION OF GDP OF INDIA

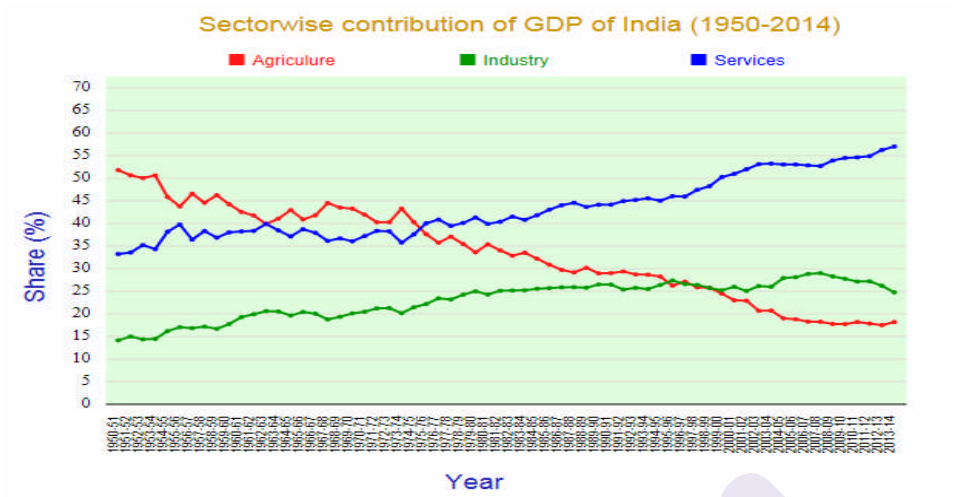
Indian economy is classified in three sectors — Agriculture and allied (Primary sector), Industry (Secondary sector) and Services (Tertiary sector). Agriculture sector includes Agriculture (Agriculture proper & Livestock), Forestry & Logging, Fishing and related activities.

Industry includes 'Mining & quarrying', Manufacturing (Registered & Unregistered), Electricity, Gas, Water supply, and Construction.

Services sector includes 'Trade, hotels, transport, communication and services related to broadcasting', 'Financial, real estate & professional services, 'Public Administration, defence and other services'.

Services sector is the largest sector of India. Gross Value Added (GVA) at current prices for Services sector is estimated at 73.79 lakh crore INR in 2016-17. Services sector accounts for 53.66% of total India's GVA of 137.51 lakh crore Indian rupees. With GVA of Rs. 39.90 lakh crore, Industry sector contributes 29.02%. While, Agriculture and allied sector shares 17.32% and GVA is around of 23.82 lakh crore INR.At 2011-12 prices,

composition of Agriculture & allied, Industry, and Services sector are 15.11%, 31.12%, and 53.77%, respectively.



Sector-wise composition
At Constant Prices (2004-2005) series

Year	Primary sector	Secondary Sector	Tertiary Sector
1950-51	53.7	14.4	29.5
1960-61	49.8	18.0	30.2
1970-71	43.9	21.4	33.3
1980-81	38.3	23.0	37.6
1990-91	33.1	24.1	42.5
2000-01	25.2	24.2	50.5
2010-11	16.8	25.6	57.5
2015-16	18.4	28.2	53.4
2016-17	18.1	28.2	53.7

Source: Economic survey, 2016-17

Trends in the Sector-wise contribution:

We can observe the following broad trends in the sector-wise contribution of GDP :-

1. Declining Agriculture

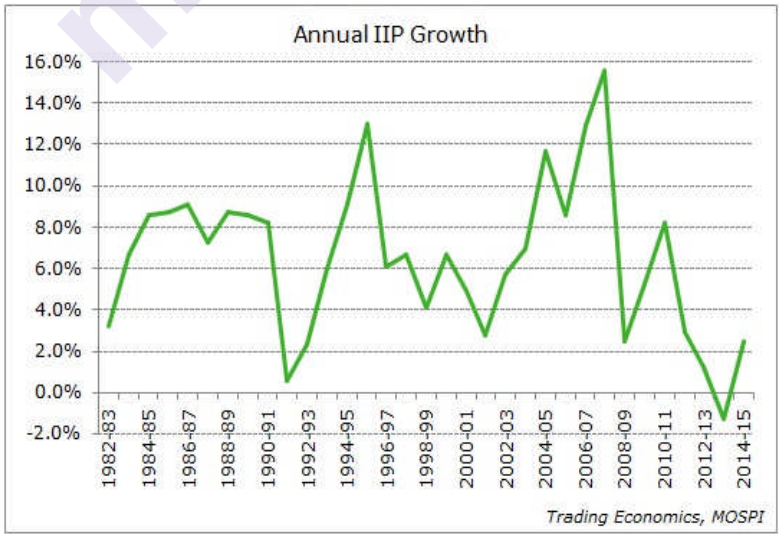
India's economy is rooted in a strong agricultural sector which constituted about 52% of its GDP in 1951. It truly was an agrarian economy. Over the years, agriculture has slowly declined as a percentage of the GDP. In the late 1980s, agriculture fell to just below 30% of the GDP and after 2004, agriculture fell further to under 20% of GDP. However, agricultural (which includes forestry, fishing, livestock production and cultivation of crops) still holds huge importance for the Indian economy. The sector employs about 50% of the labour force, contributes a declining yet significant share of 17-18% to the GDP and constitutes about 10% of India's exports.

In terms of produce, India's is the among the world's largest producers of tea, milk, pulses, cashew, spices, jute, rice, wheat, fruits and vegetables, sugarcane, oilseeds and cotton. The country accounts for 2.07% of the global agricultural trade. There is immense potential for improvement and growth in the agricultural sector and initiatives by the government to boost long-term investment should help realize those in the coming years.

2. Industry

The share of the industrial sector (which includes construction, mining, manufacturing, electricity, gas and water) has hovered between 24%-29% of the GDP for the last three decades (from 1980 onwards). The sector employs just about 20% of the labour force In India. The industrial sector has lagged behind in India's transformation from an agrarian economy to one being dominated by the services sector.

The Index of Industrial Production (IIP) is a monthly assessment by India's Ministry of Statistics and Programme Implementation (MOSPI) that measures the pulse of short-term industrial activity in India. The IIP is composed of different sectors--manufacturing, mining and electricity--and each sector has a different allocation in the index. Manufacturing contributes 75.52% while mining and electricity contribute 14.16% and 10.32%, respectively. The 75% allocation speaks about the importance of manufacturing in the economy and the dominance of the industrial sector. However, despite huge potential, the manufacturing sector is still largely untapped, contributing only about 17% to the GDP. The graph below shows the trend in the IIP over the years. It's been a journey of highs and lows.



The government is making efforts to push the industrial sector by boosting manufacturing. Under Indian Prime Minister Narendra Modi's government, the "Make in India" initiative aims to

position India as a global manufacturing hub. The initiative hopes to increase manufacturing by 25% (as measured in percentage of GDP) over the next 10 years, a task easier said than done. If an industrial sector, led by manufacturing, gains steam; it would create millions of jobs, reduce dependence on imports, increase exports and complement the services sector.

3. The Rise of the Services Sector

Growth in the services sector in India started during the mid-1980s, but it was the reforms of the 1990s that accelerated this growth. The services sector is now the largest and fastest growing sector of the economy, contributing more than 50% to the GDP. India's Central Statistics Office classifies the services sector into four main industries: 1) restaurants, hotels and trade; 2) storage, communication and transportation; 3) finance, insurance, business services and real estate; and 4) social, personal and community services.

The average share of the services sector in India's GDP was below 30% during the 1950s. During the 1960s and 70s, services gradually crossed the 30% mark. The sector then hovered around 40% and 45% in the 1980s and 1990s. After 2000, the contribution of the services sector to the GDP crossed 50%. From 2000 to 2014, the services sector has grown at a compound annual growth rate of 8.5%.

According to India's Department of Industrial Policy and Promotion, the services sector received the maximum foreign direct investment, amounting to $41,755 million (or 18%) of the total foreign inflows from April 2000 to December 2014. While the services sector has contributed to the country's growth, critics point out that the sector has generated relatively few jobs when compared to its rising importance to the nation's GDP. It employs a little more than 30% of the country's labour force.

The Bottom Line

According to the World Bank, "India carries great promise of an acceleration in economic growth that is also inclusive and sustainable." The fundamentals of the Indian economy are strong. It has reduced dependence on exports, boasts a high domestic savings rate and claims a rising middle class and consumer base. It also possesses enviable demographics: by 2020 India will be home to the largest working-age population in the world. Nevertheless, the real demographic-dividend can only be reaped if the government adequately invests in the skill development and education of its youth. To complement these basics, the government in power is pushing an ambitious economic development target and seeks to improve the macroeconomic environment and boost growth through manufacturing. However,

India is still challenged by vast unorganized sector of businesses who operate outside of legal and tax provisions and dodge data collection. Tax evasion, poverty, structural bottlenecks, corruption, delays in reforms and inadequate infrastructure are all challenges to India's economy.

2.14 QUESTIONS

1. Explain the Meaning & nature of Gross Domestic Product (GDP).
2. Discuss the key differences between GDP & GNP.
3. Explain the Concept of GDP Deflator.
4. Explain the concept of Purchasing Power Parity (PPP).
5. Describe the problems of measuring GDP in PPP.
6. Discuss the Trends in India’s GDP growth
7. Explain the Sector-wise contribution of GDP in India.
8. Why the GDP growth rate is important? – Explain.
9. Discuss experience in GDP growth with reference to India.

Module 2

Unit - 3

CONSUMPTION, SAVING AND INVESTMENT

Unit Structure:

3.0 OBJECTIVES

- Introduction to National Income identities
- To acquaint the students with National Income identities in Open & Closed economy
- to study the consumption function & its determinants
- to understand how do Investment Multiplier work
- To study leakages of multiplier process

3.1 INTRODUCTION

The main difference between an open economy and a closed economy is that in an open economy, the total value of its consumption may be different from the total value of its GDP.GDP is divided into four broad categories of spending: consumption (C), investment (I), government purchases (G) and net exports (X – AT), where X stands for exports and M for imports.

So we can express GDP as:
Y = C + I + G + (X – M)

This identity is called national income accounts identity for an open economy. Consumption refers to household expenditure on various goods and services. Goods are of three types: non-durables (such as food and cloth), durables (such as cars and refrigerators) and services (such as haircut, education and medical care).

Investment refers to capital goods, which are purchased for producing mainly consumer goods in the economy (although, in reality, machines are also used to make machines). It may be

noted, at the outset, that investment does not include purchases of shares and bonds, which just reallocate existing assets among different individuals. Investment refers to expenditure on new capital, which can be used in the future.

Investment is of three main types: business fixed investment, residential fixed investment and inventory investment. Business investment is the purchase (acquisition) of new plant, equipment and machinery by firms.

Residential investment is the purchase of new houses by the individuals. Inventory investment is the increase in the firm's stock of finished goods (although business firms also hold stocks of raw materials). A fall in inventories implies negative investment and vice versa.

Government purchases are the various goods and services purchased by the central, state and local governments (such as municipalities and panchayats) such as food, books, stationery, railway wagons, and medicines as also services of government workers. For example, when an individual is working in a nationalised bank, the government is buying his service by paying him salary.

Government purchases does not include transfer payments made to individuals, such as pensions, interest on government bonds, unemployment benefit, etc. Those who receive such transfer payments do not provide anything to the government in exchange.

This is why they are excluded from GDP. For example, interest on government bonds is not a part of GDP because government pays interest on bonds just by taxing people. So, there is a transfer of income from taxpayers to bondholders but the total production of goods and services and thus, the flow of income remains constant. There is just reallocation of existing income through such transfers. However, interest paid by a company to its debenture holders is a part of national income because the company pays such interest from its sales revenue.

Net exports are the difference between exports and imports. It is the difference between the value of goods and services exported to the rest of the world and the value of goods and services imported from the rest of the world. They represent the net exports by foreigners on domestically produced goods and services. Such income generates income for domestic producers.

Thus, national income is the sum-total of income earned by the people of a country through their contribution to the production

process. It not only includes income earned within the domestic territory of a country but also any income earned abroad.

We may now refer to the macroeconomic identity for an open economy.

The National Income Accounts Identity for an Open Economy:
From the expenditure side, national income = total final expenditure
N. I. = C + I + G + X – M
Total final expenditure consists of expenditure that generates income, or it can be thought of as sources of income.

Now let us consider the expression:
Y = C + S + T. The right hand side of this equation indicates the use of the income generated in the economy (for consumption, for saving, and for taxes).

Since uses of income must equal sources of income, we have the following identity:
C + S + T = C + I + G + X – M
or, S + T = I + G + X – M
or, S + T + M = I + G + X

This implies that the sum-total of leakages from the circular flow of income = the sum-total of injections into the circular flow.

Another Interpretation of the above Identity:
The above equation can be expressed as:
I + G + X = S + T + M
or, I = S + (T – G) + (M – X)

Total investment = household saving + budget surplus + trade deficit
or, S = I + (G – T) + (X – M)
or, S – I = (G – T) + (X – M)
or, the difference between S and I = government budget deficit + trade surplus.

The Twin Deficits:
In an open economy, a fiscal deficit shall spread to a current account deficit (CAD). The CAD is the excess of I over S plus the excess of G over T. So as G exceeds T, unless I falls or S rises, the CAD will widen.

The national income identity in an open economy
Y = C + I + G + NX
or, NX = Y – (C + I + G)
NX = Net Exports, Y= output, (C+I+G) = Domestic Spending;
Trade surpluses and deficits

NX = EX – IM = Y – (C + I + G)
Trade surplus: output > spending and exports > imports
Size of the trade surplus = NX
Trade deficit: spending > output and imports > exports
Size of the trade deficit = –NX
International capital flows

Net capital outflow = S – I = net outflow of "loanable funds"= net purchases of foreign assets = the country's purchases of foreign assets - foreign purchases of domestic assets
When S > I, country is a net lender
When S < I, country is a net borrower
The link between trade & capital flows
NX = Y – (C + I + G) implies NX = (Y – C – G) – I = S – I
trade balance = net capital outflow

Thus, a country with a trade deficit (NX< 0) is a net borrower (S < I)
In any Open economy have three possibilities;

1. A country with trade Surplus. 2. A country with balanced trade. 3. a country with trade deficit. The relationship between saving, investment and international flow of goods and capital is summarised as follows:-
2.

Trade Surplus	**Balanced Trade**	**Trade Deficit**
Exports > Imports	Exports = Imports	Exports < Imports
Net exports > 0	Net exports = 0	Net exports < 0
Y > C + I + G	Y = C + I + G	Y < C + I + G
Savings > Investment	Savings = Investment	Savings < Investment
Net Capital Outflow > 0	Net Capital Outflow = 0	Net Capital Outflow < 0

3.2 CONSUMPTION FUNCTION

3.2.1 Introduction:

Given the aggregate supply, the level of income or employment is determined by the level of aggregate demand; the greater the aggregate demand, the greater the level of income and employment and vice versa.

Keynes was not interested in the factors determining the aggregate supply since he was concerned with the short run and the existing productive capacity. We will also not explain in detail the factors which determine the aggregate supply and will confine ourselves to explaining the determinants of aggregate demand.

Aggregate demand consists of two parts—consumption demand and investment demand. In this article we will explain the consumption demand and the factors on which it depends and how it changes over a period of time. Consumption demand depends upon the level of income and the propensity to consume. We shall explain below the meaning of the consumption function and the factors on which it depends.

3.2.2 The Concept of Consumption Function:

Propensity to consume is also called consumption function. In the Keynesian theory, we are concerned not with the consumption of an individual consumer but with the sum total of consumption spending by all the individuals. However, in generalizing the consumption behaviour of the whole economy, we have to draw some useful conclusions from the study of the behaviour of a normal consumer, which may be valid for all consumers' behaviour of the economy. Aggregate consumption depends on consumption function or propensity to consume.

The economic term *'consumption'* means the amount spent on consumption at a given level of income. *'Consumption function'* or *'propensity to consume'* means the whole of the schedule showing consumption expenditure at various levels of income. It tells us how consumption expenditure increases as income increases. The consumption function or propensity to consume, therefore, indicates a functional relationship between the aggregates, viz., total consumption expenditure and the gross national income. It is a schedule that expresses relationship between consumption and disposable income.

According to Keynesian theory, following are the factors that influence consumption:

(a) The real income of the individual,
(b) The past savings, and
(c) Rate of interest.

3.2.3 Average and Marginal Propensities to Consume:

The average propensity to consume (APC) is a relationship between total consumption and total income in a given period of time. In other words, APC is the ratio of consumption to income. Thus:

$$APC = \frac{C}{Y}$$

Where C : Consumption
Y : Income
APC : Average propensity to consume

While, the marginal propensity to consume (MPC) measures the incremental change in consumption as a result of a given

increment in income. In other words, MPC is the ratio of change in consumption to the change in income.

$$MPC = \frac{\Delta C}{\Delta Y}$$

Where ΔC : Incremental change in consumption
ΔY : Incremental change in income
MPC : Marginal propensity to consume

The normal relationship between income and consumption is that when income increases, consumption also increases, but by less than the increase in income. In other words, in normal circumstances, mpc is less than one. It is drawn as a straight-line with a slope of less than one. This slope indicates the percentage of additional disposable income that will be spent. It is assumed that the whole additional income is not spent, i.e., a certain amount is spent and the remainder is saved. This can be further explained with the help of following table and diagram:

Income	Consumption	Saving
100	75	25
120	90	30
140	105	35
180	135	45
220	165	55

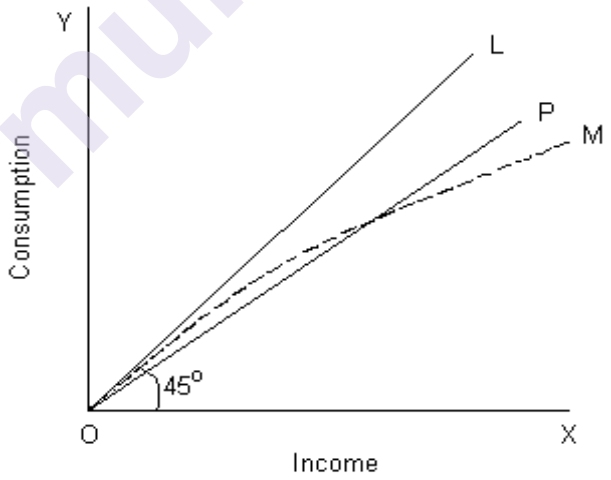


Fig 3.1 Income consumption relationship

In the above diagram, OL is the income line and OP is income consumption curve. The income consumption line OP lies below the income line OL. The MPC will be measured by the tangent of the angle that income consumption curve makes with X-axis.

$mpc = \tan \angle POX$

The curve as we have drawn turns out to be straight line rising from the origin, which means that MPC is constant throughout. This, however, need not be so and the curve may well become flatter as income rises, for as more and more consumption needs have been satisfied, a greater share of an increase in income than before may be saved. The dotted curve OM represents such a relationship showing that as income rises, MPC becomes smaller and smaller.

There is a level of disposable income (DI) at which the entire income is spent and nothing is saved. This point is often known as *'point of zero savings'*. Below this level of DI, the consumption expenditure will exceed the DI. There may be cases in which the consumer has no income at all. In such cases, the income consumption curve may not rise from the origin but from farther left showing that when income is zero, consumption is not zero and that the individual is living on his past savings.

3.2.4 Propensity to Save:

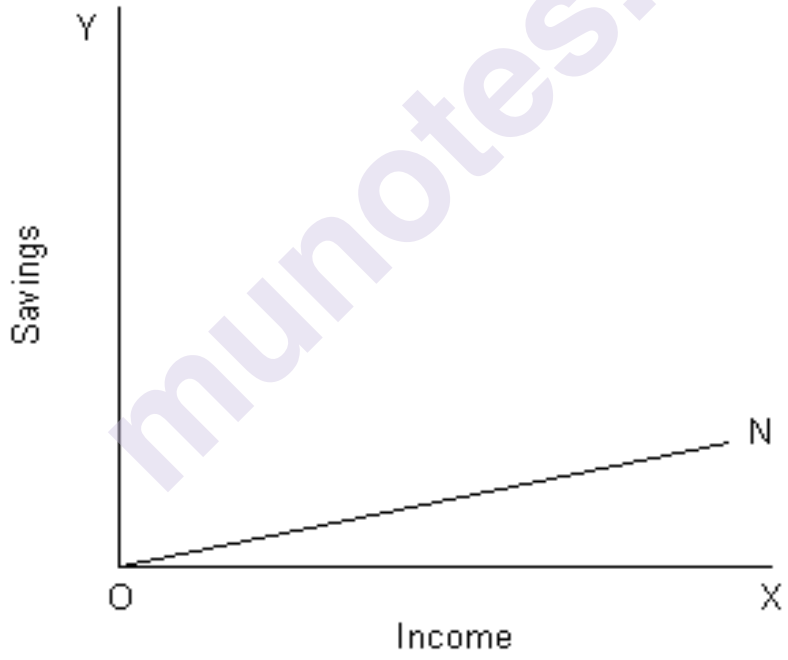


Fig 3.2 saving-income curve

In the above diagram, ON represents the saving-income curve. Savings at a given level of income can also be read off from the distance between a point on income-consumption curve and corresponding point on income curve *(See the figure of income-consumption relationship).* The marginal propensity to save (MPS) can be measured by the slope of income-saving curve ON. Marginal propensity to save (MPS) is the increment in savings caused by a given increment in income. The MPS is always equal to one minus MPC:

$$\text{Marginal propensity to save (mps)} = \frac{\Delta S}{\Delta Y}$$

$$= 1 - \frac{\Delta C}{\Delta Y}$$

$$\text{Average propensity to save (aps)} = \frac{S}{Y}$$

$$= \frac{\text{Total saving}}{\text{Total income}}$$

Consumption demand depends on income and propensity to consume. Propensity to consume depends on various factors such as price level, interest rate, stock of wealth and several subjective factors. Since Keynes was concerned with short-run consumption function he assumed price level, interest rate, stock of wealth etc. constant in his theory of consumption. Thus with these factors being assumed constant in the short run, Keynesian consumption function considers consumption as a function of income. Thus C= f(Y)

In a specific form, Keynesian function can be written as:
C = a + f(Y) where a and b are constants. While a is intercept term of the consumption function, b stands for the slope of the consumption function and therefore represents marginal propensity to consume.

Keynesian consumption function has been depicted by CC' curve in Fig. 11.3 in which along the X-axis national income is measured and along the Y-axis the amount of consumption is measured. In this figure, a line OZ making 45° angle with the X-axis, has been drawn. Because line OZ makes 45° angle with the X-axis every point on it is equidistant from both the X-axis and Y-axis.

Therefore, if consumption function curve coincides with 45° line OZ it would imply that the amount of consumption is equal to the income at every level of income. In this case, with the increase in income, consumption would also increase by the same amount.
As has been said above, in actual practice consumption increases less than the increase in income. Therefore, in actual practice the curve depicting the consumption function will deviate from the 45° line. If we represent the above consumption schedule by a curve, we would get the propensity to consume curve such as CC in Fig. 3.3.

It is evident from this figure that the consumption function curve CC' deviates from the 45° line OZ. At lower levels of income, the consumption function curve CC lies above the OZ line, signifying that at these lower levels of income consumption is

greater than the income. It is so because at lower levels of income, a nation may draw upon its accumulated savings to maintain its consumption standard or it may borrow from others. As income increases, consumption also increases and at the income level OY_0, consumption is equal to income.

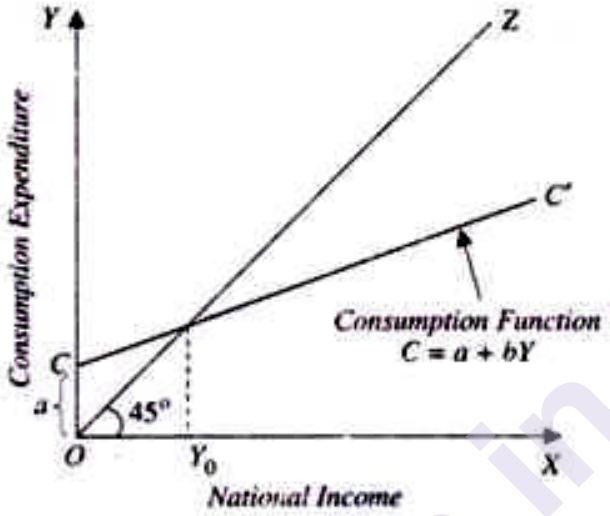


Fig 3.3 Keynesian Linear Consumption function

Beyond this, with the increase in income, consumption increases but less than the increase in income and therefore, consumption function curve CC lies below the 45° line OZ beyond Y_0. An important point to be noted here is that beyond the level of income OY_0, the gap between consumption and income is widening. The difference between consumption and income represents savings. Therefore, with the increase in income, saving gap also widens and as we shall see later, this has a significant implication in macroeconomics.

3.2.5 Keynes' Law of Consumption:

Keynes propounded a law based on the analysis of consumption function. This law is known as 'Fundamental Law of Consumption' or 'Psychological Law of Consumption'. It states that aggregate consumption is a function of aggregate disposable income.

Propositions of the Law:

This law consists of three propositions:

(a) When aggregate income increases, consumption expenditure will also increase but by a somewhat smaller amount.

(b) When income increases, the increment of income will be divided in same proportion between saving and consumption. Consumption and saving go side by side. What is not consumed is saved. Savings is, thus, the complement of consumption.

(c) As income increases, both consumption spending and saving go up. An increment in income is unlikely to lead either to less spending or less savings than before. It will seldom happen that a person may decrease his consumption or his savings when he has got more income.

3.2.6 Assumptions:

(a) Habits of people regarding spending do not change or that **the propensity to consume remains the same or stable.**

(b) **The economic conditions remain normal**. There is no hyper-inflation or war or other abnormal conditions.

(c) The economy is a **free-market economy.** There is no government intervention.

(d) The important characteristic of the slope of consumption function is that the **marginal propensity to consume (**MPC**) will be less than unity.** This results in low-consumption and high-saving economy.

3.2.7 Implications:

According to Keynesian theory, the mpc is less than unity, which brings out the following implications:

(a) Since consumption largely depends on **income and consumption function is more or less stable,** it is necessary to increase investment fill the gap of declining consumption as income increases. If this is not done, the increased output will not be profitable.

(b) When the income increases, and the consumption are not increased, there is a **danger of over-production.** The government will have to step in to remedy the situation. Therefore, the policy of laissez-faire will not work here.

(c) **If the consumption is not increased, the marginal efficiency of capital (MEC) will diminish.** The demand for capital will also diminish, and all the economic progress will come to a standstill.

(d) Keynes' Law explains the **turning points in the business cycle**. When the trade cycle has reached the highest point of prosperity, income has gone up. But since consumption does not correspondingly go up, the downward cycle starts, for demand has lagged behind. In the same manner, when the business cycle has touched the lowest point, the cycle starts upwards, because consumption cannot be diminished beyond a certain point. This is due to the stability of MPC.

(e) Since the MPC is less than unity, this law explains the **over-saving gap**. As income goes on increasing, consumption does not increase as much. Hence saving process proceeds cumulatively and there arises a danger of over-saving.

(f) This law also explains the **unique nature of income generation**. If money is injected into the economic system, it will increase consumption but to a smaller extent than increase in income. This again is due to the fact that consumption does not increase along with increase in income.

3.2.8 Factors Influencing Consumption Function:

There are certain factors affecting the propensity to consume in the long-run:

1. Objective Factors:

(a) Distribution of income: It is generally observed that the average and marginal propensities to consume of the poor are greater than those of the rich. This is because the poor has a lot of unsatisfied wants and he is likely to seize every opportunity that comes his way to satisfy them. On the other hand, the rich have already a high standard of living and relatively less urgent wants remain to be satisfied, so that in their case, an addition to their incomes is more likely to be saved than spent on consumption.

(b) Fiscal policy: Fiscal policy of the government will also influence the consumption behaviour of an economy. A reduction in taxation will leave more post-tax incomes with the people and this will stimulate higher expenditure on consumptions. Similarly, an increase in taxes will depress consumption.

(c) Changes in business expectations: Business expectations by affecting the incomes of certain classes of people affect consumption function.

(d) Windfall gains and losses: The windfall losses and gains arising out of changes in capital values affect the 'saving brackets' mostly and not the spending sections. Hence, their influence on consumption function is not so well marked.

(e) Liquidity preferences: Another factor is the people's liquidity preferences. If people prefer to keep their income in liquid ford, consumption is reduced correspondingly.

(f) Substantial changes in the rate of interest.

2. Subjective Factors:

(a) Individual motives to save:

(i) Building of reserves for unforeseen contingencies as illness or unemployment,

(ii) To provide for anticipated future needs such as daughter's wedding, education, etc.

(iii) To enjoy an enlarged future income by investing funds out of current income, etc.

(b) Business motives:

(i) The desire to expand business,
(ii) The desire to face emergencies successfully,
(iii) The desire to have successful management,
(iv) The desire to ensure sufficient financial provision against depreciation and obsolescence.

3.2.9 Measures for Raising Consumption:

1. Redistribution of income in favour of poor where propensity to consume is greater.
2. Comprehensive social security measures like unemployment doles, old-age pension, sickness insurance, etc.
3. Liberal wage policy, and
4. Credit facilities for middle and poor classes for purchasing more consumer goods.

3.2.10 Importance of Consumption Function:

1. Important tool of macro-economic analysis.
2. Value of the multiplier gives us a link between changes in investment and changes in income.
3. Consumption function invalidates the Say's Law, which states that supply creates its own demand, because this theory does not hold accurate in the real world.
4. It shows the crucial importance of investment.
5. It explains the reasons of declining MEC.
6. It explains the turning points of business cycle.

3.3 SAVING FUNCTION

As mentioned above, consumption increases as income increases but less than the rise in income. We will now explain what happens to saving when income increases. Saving is defined as the part of income which is not consumed because disposable income is either consumed or saved.

Thus,
Y = C + S
S = Y – C
where Y = Disposable income, C = Consumption, S = Saving
Like consumption, saving is also a function of income. Thus, saving function can be written as
S= f(Y)

Saving function is a counterpart of a consumption function, Therefore, given a particular consumption, function, we can derive the corresponding saving function. Let us take the Keynesian consumption, namely, C = a + bY. We can derive saving function corresponding to it.

Since Y = C + S
S = Y – C

Now, substituting the above Keynesian function for C in (i) we have
S = Y – (a + bY)
= Y – a – bY
= – a + Y – bY
= – a + (1 – b) Y

Note that (1 – b) in the above saving function in (ii) is the value of marginal propensity to save where b is the value of marginal propensity to consume.

3.3.1 Average propensity to save:

An important relationship between income and saving is described by the concept of average propensity to save. (APS). Average propensity to save is the proportion of disposable income that is saved (i.e. not consumed). Mathematically
APS = Savings/Disposable Income = S/Y

Like the average propensity to consume (APC) average propensity to save also generally varies as income increases. As seen above, average propensity to consume (APC) falls as income increases. This implies that average propensity to save will increase as income rises.

Let us derive an important relationship between average propensity to consume and average propensity to save.

Restating below the relation that income is either consumed or saved:
C + S = Y
Dividing both sides by disposable income Y we have
C/Y + S/Y + Y/Y = 1

Since C/Y is average propensity to consume and S/Y is average propensity to save, we have
APC + APS = 1
or APS = 1 – APC

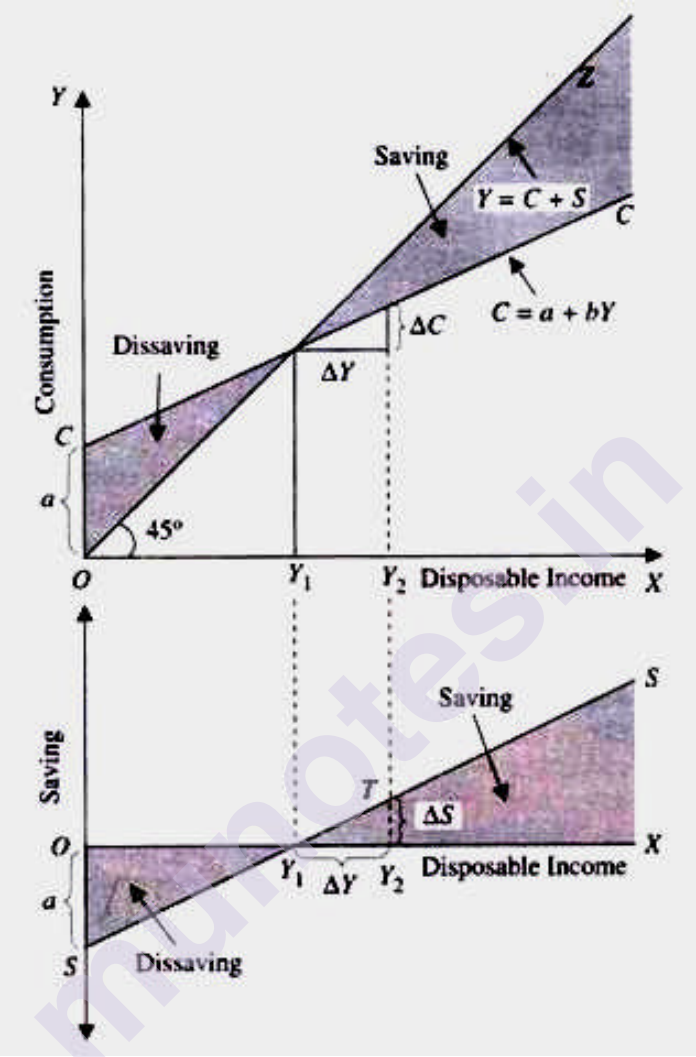


Fig 3.4 saving Function derived from Consumption function

3.3.2 Marginal Propensity to Save (MPS):

Whereas average propensity to save indicates the proportion of income that is saved, marginal propensity to save represents how much of the additional disposable income is devoted to saving. The marginal propensity to save is therefore change in savings induced by a change in the disposable income.

Thus,
MPS = ΔS/ΔY

For example, if disposable income increases from rupees 10,000 to 12,000 and this causes planned savings to increase by Rs. 500 crores, marginal propensity to save is:
MPS = 500/2000 = 1/4 = 0.25

Since the additional income is either consumed or saved, the sum of marginal propensity to consume and marginal propensity to save is equal to one.

MPC + MPS = 1

This can be mathematically proved as under

From C + S = Y, it follows that any change in income (AF) must induce either change in consumption (AC) or change in saving (AS). Thus.

$\Delta C + \Delta S = \Delta Y$

Dividing both sides by ΔY we have

$\Delta C/\Delta Y + \Delta S/\Delta Y = \Delta Y/\Delta Y = 1$

MPC + MPS = 1

The concept of marginal propensity to save is graphically shown at the bottom of Fig. 6.6. It will be seen from this figure that when disposable income increases from OY_1 (say Rs. 10,000) to OY_2 (say Rs. 12,000), that is, ΔY = Rs. 2000, the saving increases by Y_2T, (Rs. 500), that is, ΔS is Rs. 500. Thus marginal propensity to save (MPS) is

$\Delta S/\Delta Y = Y_2T/Y_1Y_2 = 500/2000 = 1/4 = 0.25$

Conclusion:

In the work of Keynes, Fisher, Modigliani and Friedman, we have seen a progression of views on consumer behaviours. Keynes proposed that C depends largely on current Y. Since then, economists have argued that consumers face an inter-temporal decision. Consumers look ahead to their future resources and needs, implying a more complex Consumption function, than the one proposed by Keynes. Keynes suggested a Consumption function of the form: C = f (current Y).

Recent work suggests instead that C = f (Current Y, Wealth, Expected Future Y, Interest Rates).

Economists continue to debate the relative importance of these determinants of C. There remains disagreement on the effect of interest rates and the prevalence of borrowing constraints. One reason economists sometimes disagree about the effects of economic policy is that they are assuming different Consumption functions.

3.4 INVESTMENT MULTIPLIER

3.4.1 Introduction

The theory of multiplier occupies an important place in the modern theory of income and employment. The concept of multiplier was first of all developed by F.A. Kahn in the early 1930s. But Keynes later further refined it. F.A. Kahn developed the concept

of multiplier with reference to the increase in employment, direct as well as indirect, as a result of initial increase in investment and employment. Keynes, however, propounded the concept of multiplier with reference to the increase in total income, direct as well as indirect, as a result of original increase in investment and income.

In practice, it is observed that when investment is increased by a certain amount, then the change in income is not restricted to the extent of the initial investment, but it changes several times the change in investment. In other words, change in income is a multiple of the change in investment. Multiplier explains how many times the income increases as a result of an increase in the investment.

Multiplier (k) is the ratio of increase in national income (ΔY) due to an increase in investment (ΔI).
$K= \Delta Y/\Delta I$

Suppose an additional investment (ΔI) of RS 4,000 crores in an economy generates an additional income (ΔY) of Rs 16,000 crores. The value of multiplier (k), in this case will be:
k =16,000/4,000 = 4
It means, income increased 4 times with a single increase in investment.

3.4.2 Multiplier and MPC:

There exists a direct relationship between MPC and the value of multiplier. Higher the MPC, more will be the value of multiplier, arid vice-versa. The concept of multiplier is based on the fact that one person's expenditure is another person's income. When investment is increased, it also increases the income of the people. People spend a part of this increased income on consumption. However, the amount of increased income spent on consumption depends on the value of MPC.

1. In case of higher MPC, people will spend a large proportion of their increased income on consumption. In such case, value of multiplier will be more.
2. In case of low MPC, people will spend lesser proportion of their increased income on consumption. In such case, value of multiplier will be comparatively less.

Thus, the value of multiplier depends upon the MPC
The algebraic relation between Multiplier and MPC can be derived in the following manner:
We know, at equilibrium, income (Y) is the sum total of consumption (C) and investment (I).
Y = C + I

Similarly, any change in income (ΔY) will also be equal to ($\Delta C + \Delta I$).
$\Delta Y = \Delta C + \Delta I$

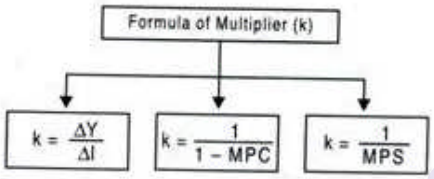
Multiplier (k) in terms of MPS

We know, $k = \frac{1}{1 - MPC}$

We also know, $1 - MPC = MPS$

So, $k = \frac{1}{MPS}$

It means, the value of multiplier can be known if the MPC or the MPS is known.



Multiplier is directly related to MPC and inversely related to MPS:

The value of multiplier depends upon the value of marginal propensity to consume. Multiplier (k) and MPC are directly related, i.e., when MPC is more, k is more and vice-versa. On the contrary, higher the MPS, lower will be the value of multiplier and vice-versa.

3.4.3 Maximum Value of Multiplier:

The maximum value of multiplier is infinity when the value of MPC is 1. MPC = 1 indicates that the economy decides to consume the whole of its additional income. Here, not even a bit of the additional income is saved. It will lead to a continuous increase in the consumption expenditure and value of multiplier will be infinity.

3.4.4 Minimum Value of Multiplier:

The minimum value of multiplier is one when the value of MPC is zero. MPC = 0 indicates that the economy decides to save the whole of its additional income and nothing is spent as consumption expenditure. So, there will be no further increase in income. As a result, the total increase in income (ΔY) will be equal to the increase in investment (ΔI), i.e., $\Delta Y = \Delta I$ Here, the value of multiplier is equal to 1.

3.4.5 Working of Multiplier:

The working of multiplier is based on the fact that 'One person's expenditure is another person's income'. When an additional investment is made, then income increases many times more than the increase in investment. Let us understand this with the help of an example.

1. Suppose, an additional investment of Rs 100 crores (AI) is made to construct a flyover. This extra investment will generate an extra income of Rs100 crores in the first round.
2. If MPC is assumed to be 0.90, then recipients of this additional income will spend 90% of Rs 100 crores, i.e. Rs 90 crores as consumption expenditure and the remaining amount will be saved. It will increase the income by Rs 90 crores in the second round.
3. In the next round, 90% of the additional income of Rs 90 crores, i.e. Rs 81 crores will be spent on consumption and the remaining amount will be saved.
4. This multiplier process will go on and the consumption expenditure in every round will be 0.90 times of the additional income received from the previous round.

Table 8.4 Working of Multiplier (MPC = 0.90)

Round	*Increase in Investment* (ΔI) (₹ Crores)	*Increase in Income* (ΔY) (₹ Crores)	*Increase in Consumption* (ΔC) (₹ Crores) (ΔY) × MPC)	*Increase In Saving* (ΔS = ΔY – ΔC) (₹ Crores)
1st	100	100	90 (100 × 0.9)	10
2nd		90	81 (90 × 0.9)	9
3rd		81	72.90 (81 × 0.9)	8.10
4th		72.90	65.61 (72.90 × 0.9)	7.29
5th		65.61	—	—
—		—	—	—
—		—	—	—
—		—	—	—
—		—	—	—
—		—	—	—
Total	**100**	**1,000**	**900**	**100**

Table No. 3.1

Thus, an initial investment of Rs 100 crores leads to a total increase of Rs 1,000 crores in the income. As a result, Multiplier (K) = ΔY/ΔI= 1,000/100 = 10

Diagrammatic Presentation of Multiplier:

The multiplier can also be shown graphically using the AD and AS approach. In Fig. 8.7, income is taken on the X-axis and aggregate demand on the Y-axis. Suppose, the initial equilibrium is determined at point E where AD curve intersects the AS curve. The equilibrium level of income is OY. Now, suppose that the investment increases by ΔI / so that the new aggregate demand curve (AD_1) intersects the aggregate supply curve (AS) at point 'F'.

Thus, the new equilibrium level of income is OY_1. The income rises from OY to OY_1, in response to an initial increase in investment (ΔI). It is clear from the figure that the increase in income (YY_1 or ΔY) is greater than increase in investment (ΔI). The value of multiplier is given by

K=ΔY/ΔI

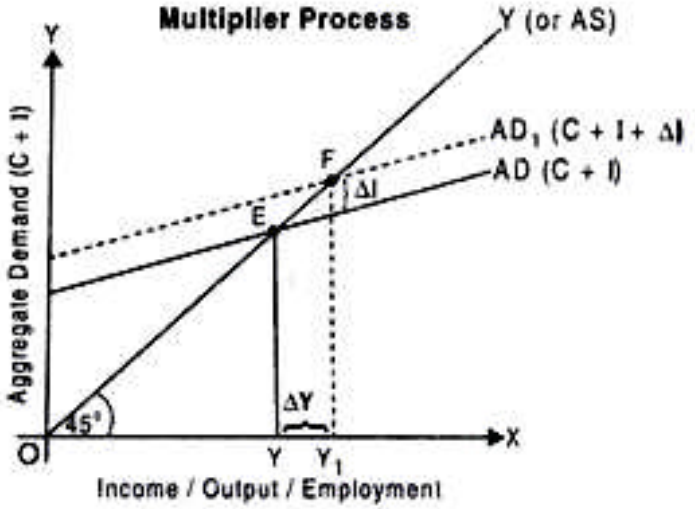


Fig 3.5

3.4.6 The Reverse Investment Multiplier:

The multiplier process also works for a fall in investment with a subsequent fall in income. If MPC = 4/5 and investment falls by Rs. 1000 crores national income will fall by Rs. 5000 crores. This will reduce the level of saving by Rs. 1000 crores because MPS = 1/5. So the new level of equilibrium will be reached when S = I = Rs. 4000 crore or where the desire to save and the desire to invest are once again equal.

3.4.7 Assumptions of the Multiplier

The theory of the multiplier is based on the following assumptions:-

1. The consumer goods are available in sufficient quantities.
2. The multiplier period is absent.
3. There exists unemployment in the economy.
4. Resources required for production are available.
5. The MPC is constant.
6. There exists excess capacity in the consumer goods industries.
7. The economy is a closed economy.
8. There should be a net increase in investment.

3.4.8 Limitations of the Multiplier

In practice there are many difficulties due to which a given increase in investment may be lower than the desired one:-

1. If there is a shortage of consumer goods, the income recipient wont able to spend on consumption and hence MPC may fall & lowers the multiplier.
2. The net increments in the investments are to be repeated in regular intervals of time otherwise income will fall back to original level.

3. The time lag between receipt of income & its expenditure (multiplier period) should be minimum otherwise value of the multiplier will be lower.
4. Once the full employment level is reached, the alue o the multiplier will not increase.
5. If there is shortage in availability of resources, the value of the multiplier will be low.

3.4.9 Leakages in the working Multiplier

The most important leakages from the circular flow of income are the following:

i. Saving:

It is the most important leakage. If MPC = 1 and MPS = 0 the numerical value of the multiplier would approach infinity. This means that if the entire new income created by an act of investment at each stage of the income generation process were spent by the people on buying consumer goods, then even a once-for-all increase in investment would go on creating extra income until the economy reached the stage of full employment. But MPC is rarely equal to 1.In practice people hardly spend their entire income on consumption goods. They save a certain portion. The portion they save (i.e., do not spent) disappears from the circular flow, thus reducing the value of the multiplier. Thus the stronger the MPS of the people, the smaller will be the value of the investment multiplier.

ii. Debt Repayment:

James Duesenberry has pointed out people do not spend their entire extra income on consumption good. They use a part of it to repay their past debt. As a result, the value of the multiplier gets reduced.

iii. Accumulation of Idle Cash Balances:

People often save money by keeping idle cash balances in banks. This idle money does not come into circulation and is unlikely to lead to an increase in consumption spending.

iv. Stock Exchange Transactions:

It is often observed that a major portion of the new income generated in the economy is utilised to buy old bonds and securities from others. Most people sell these long-term credit instruments when in distress and incur capital losses. So such transactions are unlikely to raise society's total consumption appreciably.

v. Imports:

No country in the world is self- sufficient. Therefore, a country has to spend some money on imports. However imports do not add to domestic expenditure and is unlikely to have any income and employment effect.

To the extent we spend a certain portion of our new income on imported goods, money leaks out of the country. In other words, the value of imports peters out of the income-stream, thus limiting the value of the multiplier.

vi. Price Inflation:

During inflation money income may rise but real income falls. Thus real consumption spending (which determines the value of the multiplier) will fall. In other words, a major portion of increased money income will be neutralised by price inflation, instead of stimulating consumption and creating jobs and incomes in the process.

vii. Taxes:

If the government taxes away a certain portion of the extra income generated in the economy the value of the multiplier will fall. So like savings, taxes also act as a leakage from the circular flow. Taxes are contractionary in their effects in-as-much as they reduce real consumption spending by reducing disposable income.

viii. Corporate Savings:

Moreover companies do not always distribute their entire net profit (gross profits less corporation tax) as dividend. They retain a certain portion for expansion and diversification. To the extent they follow the policy of saving a certain portion of their net profits the consumption spending of shareholders fails to increase correspondingly. Therefore the value of the multiplier will be less than otherwise.

Conclusion:

There is no denying the fact that due to such leakages the process of income generation slows down after some time. If such leakages in income stream did not exist, the process of income generation would come to a halt only when a state of full employment was reached. In fact, the process of income propagation could go on until there was the end of full employment or the beginning of inflation.

3.4.10 Importance of Multiplier:

Keynes' principle of multiplier has a great role in removing the Great Depression of 1929-34. These days governments are actively interfere in the economic affairs of the community through multiplier. Its importance is further explained as below:

1. The multiplier principle ***focuses on the importance of public investment***, which is the key to remove unemployment during the days of depression. An investment of Rs. 1 million can create income and employment worth many times, and can help the government to remove unemployment from the country.

2. During the days of depression, the private entrepreneurs are discouraged to invest in the economy. Therefore, to fill this gap, ***the government comes forward and undertakes the investment*** in her own hands. Hence, the demand for consumer goods increases and also the level of NI and employment increases on account of the working of the multiplier.

3. When the demand for goods increases and incomes rise owing to government investment, the ***profit expectations of the entrepreneurs go up*** and as a result the MEC rises.

4. When the government makes investment in public works to fight depression and unemployment, ***private investment is encouraged*** on account of the operation of the multiplier. The confidence of private investors is restored, and hence helps in further removing the economic depression of the country.

Moreover, background knowledge of the multiplier is of paramount importance not only in analysing business cycle movements but in formulating an appropriate counter-cyclical fiscal policy which seeks to achieve economic stability.

3.5 QUESTIONS

1. Explain the meaning and scope of Closed and Open economy.
2. Discuss the concept of consumption function.
3. Explain the Keynes' Law of consumption.
4. What are the factors influencing consumption function?
5. Differentiate between Marginal Propensity to Consume and marginal Propensity to save.
6. Explain the working of investment multiplier.
7. What are the leakages in the working of multiplier process?

Unit - 4

MARGINAL EFFICIENCY OF CAPITAL, ACCELERATOR, SAVINGS & CAPITAL FORMATION IN INDIA

Unit Structure:

4.0 OBJECTIVES

- Introduction to the concept of Marginal Efficiency of Capital(MEC)
- to study the relationship between MEC and Rate of Interest
- To acquaint the students with MEC schedule
- To study the determinants affecting MEC
- To study and understand the meaning and working of accelerator
- To study the role of savings in capital formation of India

4.0 INTRODUCTION

Businessmen and entrepreneurs are induced to make an investment when the return on investment is attractive. Before investing, businessmen compare the yield from the investment and the cost incurred in making the investment. It is only when the return is greater than cost, investment is made. Producing in a capitalist economy, profit is the primary objective of business firms

and manufacturing companies. So in order to maximize their profit, they seek to invest in those ventures that yield higher profit. Keynes introduced the concept of marginal efficiency of capital in order to analyze the profitability of the prospect ventures.

4.2 MEANING OF MARGINAL EFFICIENCY OF CAPITAL (MEC)

MEC refers to the expected profitability of a capital asset. It may be defined as the highest rate of return over cost expected from the marginal or additional unit of a capital asset. First we must go to the marginal unit of the capital asset and secondly its cost has to be deducted from its return.

Now the MEC in its turn, depends on two factors: the prospective yield of the capital asset and the supply price of the capital asset. The MEC is the ratio of these two factors. The prospective yield of a capital asset is the total net return from the asset over its life time.

Generally, marginal efficiency of capital or MEC refers to the expected rate of profit or the rate of return from investment over its cost. Marginal efficiency of a given capital asset is the highest return that can be yielded from the additional unit of that capital asset. Keynes defined MEC as **'The rate of discount which makes the present value of the prospective yield from the capital asset equal to its supply price'**.

Thus, Keynes' marginal theory of capital is bases on two factors that include

1. Prospective yield from capital assets

The term prospective yield is the aggregate net return the investor expects to receive on the sale of capital assets after the deduction of running costs incurred for the purchase of capital assets considering its total expected life. Usually, when the total expected life of the capital asset is divided into a series of periods, generally years, the annual return is determined. This is represented as Q_1, Q_2, Q_3… Q_n and are termed as annuities.

2. Supply price of this asset

The investor has to consider the supply price of asset that he is planning on investing. Supply price of asset refers to the cost incurred for the acquisition of the capital asset. Here, the cost incurred is for the purchase of or production of a new asset and not the price of any of the existing assets. The present value of a series of expected income from the invested capital asset throughout its life span is expressed as

$$SP = \frac{R^1}{1+r} + \frac{R^2}{1+r^2} + ... + \frac{R^n}{1+r^n}$$

Where,

SP= Supply price of new capital asset;

$R^1 + R^2 + \ldots + R^n$ = Return received annually;

r= Rate of discount applied each year;

R/ (1+r) = Current value of annuity discounted at rate r.

The concept of marginal efficiency of capital can be illustrated with a numerical.

For instance,

Expected lifespan of capital asset= 2 years

Supply price of capital asset= Rs. 3000

Expected Yield (first year) =Rs.1100

Expected Yield (Second year) = Rs.1210

Then, marginal efficiency of capital (r) is calculated as

$SP= R^1/ (1+r) + R^2/ (1+r)^2$

$2000/ (1+r) = 1100/ (1+e)^2 + 1200$

Thus, r= 10%

Taking r= 1/10

$SP= 1100 + 1100/ (1+1/10) = 1000 + 1000/ (1+1/10)^2 = 2000$

From the above calculation, we can it may be observed that

1. When the expected yield increases to R^n, rate of discount increases

2. Rate of discount or MEC decreases when supply price of capital asset increases with a given amount of expected annual return on capital asset, and vice versa.

Thus, prospective yields have a direct effect on MEC whereas, supply price has an inverse effect. This means that the rate of return over cost may vary as a result of changes in cost or change in the amount of return. Investors would be willing to make investments only when the return from prospective capital investment is greater than the supply price.

SCHEDULE OF MEC

According to **J.M. Keynes**, the behaviour of investment in respect of new investment depends upon the various stock of capital available in the economy at a particular period of time. As the stock of capital increases in the economy, the marginal efficiency of capital goes on diminishing. The MEC curve is negatively sloped as a shown in the figure

Investment (Rs in Billion)	Marginal Efficiency of Capital (MEC)
20	10%
25	9%
40	7%
70	5%
100	2%

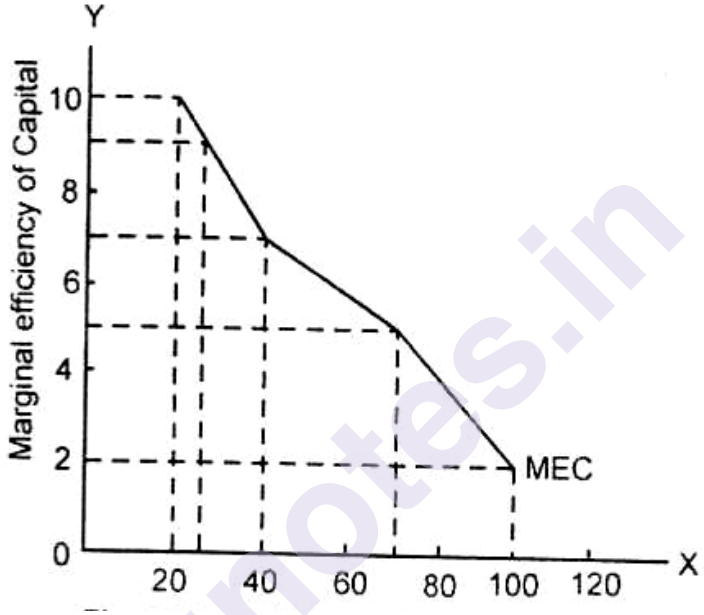


Fig 4.1 Volume of Investment

In the above table, it is shown when stock of capital is equal to $20 billion, the marginal efficiency of capital is 10% while at a capital stock of $100 billion, it declines to 2%. This investment demand schedule when depicted graphically in figure 30.7 gives us the investment demand curve which goes on sloping downward from left to right.

4.3 RELATIVE ROLE OF MEC AND THE RATE OF INTEREST

The ***MEC*** **and the rate of interest** are the two important factors which affect the volume of new investment in a country. An investor while making a new investment weighs the MEC of new investment against the prevailing rate of interest. As long as the MEC is higher than the rate of interest, the investment will be made till the MEC and the rate of interest are equalized.

For example, if the rate of interest 7%, the induced investment will continue to be made till the MEC and the rate of interest are equalized. At 7% rate of interest, the new investment will be $40 billion. In case, the rate of interest comes down to 2%, the new investment in capital assets will be $100 billion.

To finance investment, firms will either borrow or reduce savings. If interest rates are lower, it's cheaper to borrow, or their savings give a lower return making investment relatively more attractive.

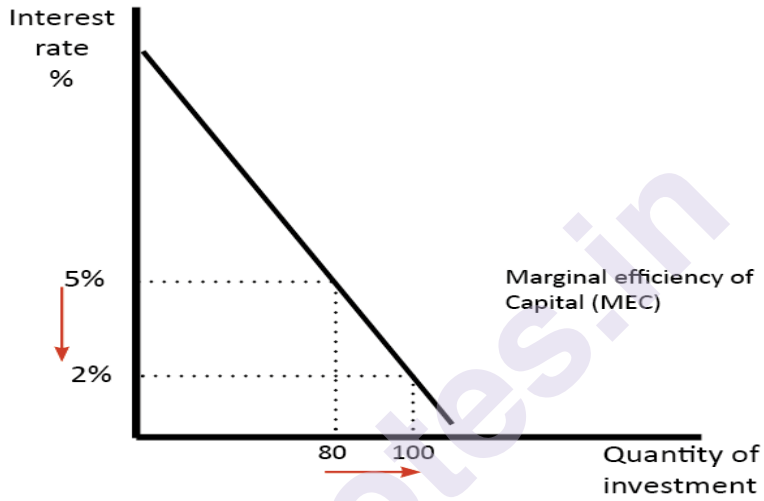


Fig 4.2

- A cut in interest rates from 5% to 2% will increase investment from 80 to 100.
- The alternative to investing is saving money in a bank; this is the opportunity cost of investment.
- If the rate of interest is 5%, then only projects with a rate of return of greater than 5% will be profitable.
- *How responsive is Investment to Interest Rates?*
- In Keynesian investment theory, interest rates are one important factor. However, in a liquidity trap, investment may be unresponsive to lower interest rates. In some circumstances, demand for investment is very interest inelastic.

In a liquidity trap, business confidence may be very low. Therefore, despite low-interest rates, firms don't want to invest because they have low expectations of future profits.

4.4 FACTORS AFFECTING MARGINAL EFFICIENCY OF CAPITAL (MEC)

The various factors that bring about shifts in MEC are short run or endogenous factors and long rim or exogenous factors.

4.4.1 The short run factors are:

1. Expected demand:

If the demand for the product is expected to be high in future, the MEC will be high and the investment will increase. On the other hand if the demand for the product is expected to decline in future the MEC will be low and investment will fall.

2. Costs and prices:

If the costs are expected to decline and if the prices are expected to increase, the expectation of the producer will go up. On the other hand if the costs are expected to go up and prices are to decline the MEC will receive a set back and the investment will be less.

3. Propensity to consume:

If the propensity to consume is more than the volume of investment will be more and vice versa.

4. Changes in income:

An increase in the level of income will stimulate investment while a decrease in the level of income will discourage investment.

5. Current state of expectation:

Businessmen while making expectations take into account the current state of affairs regarding costs, prices, returns etc. If they are high the MEC is bound to be high for new projects of investment.

6. Level of confidence:

During period of optimism the businessmen over estimate and boost the MEC of capital assets. During period of pessimism they under estimate and reduce the MEC of capital assets.

4.4.2 The long run factors which influence the MEC are as follows:

1. Population growth:

A rapidly growing population means a rapid increase in the demand for all types of goods and hence investment rises and conversely, a decline in population will decrease the demand investment.

2. Development of new areas:

When a new area is developed heavy investments in all fields such as agriculture, industries, electricity, housing etc., are to be undertaken.

3. Technological factors:

New invention or new discovery may necessitate the installation of new machineries in the industrial enterprise and encourage investment.

4. Productive capacity of the Industry:

If the existing capacity is fully utilised then any further increase in demand will be met with by making fresh investment on new capital equipment.

5. Level of current investment:

If the existing level of investment is already high there will be little scope for further investment and vice versa.

Thus the concept of marginal efficiency of capital is very important for business world.

4.5 ACCELERATOR PRINCIPLE

4.5.1 Introduction

The multiplier describes the relationship between investment and income, i.e., the effect of investment on income. The multiplier concept is concerned with original investment as a stimulus to consumption and thereby to income and employment. But in this concept, we are not concerned about the effect of income on investment. This effect is covered by the *'accelerator'*. The term *'accelerator'* should not be confused with the accelerator in cars. It does not make the investment to grow faster and faster. The term *'accelerator'* is associated with the name of J.M. Clark in the year 1914. it has been proved a powerful tool of economic analysis since then. Keynes, astonishingly, has altogether ignored this concept. That is why, the concept of accelerator is not considered the part of Keynesian theory.

The multiplier and the accelerator are not rivals: they are parallel concepts. While multiplier shows the effect of changes in investment on changes in income (and employment), the accelerator shows the effect of a change in consumption on private investment.

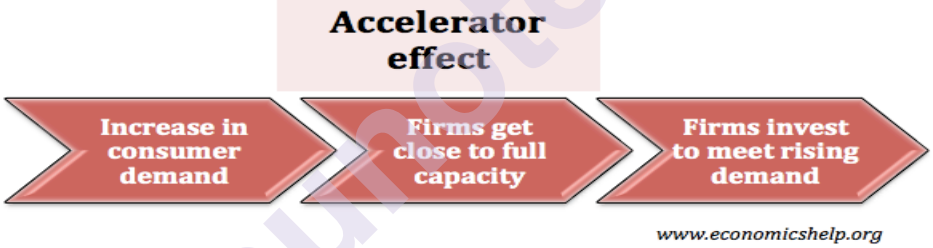
4.6 MEANING OF ACCELERATOR PRINCIPLE

The idea underlying the accelerator is of a functional relationship between the demand for consumption goods and the demand for machines which make them. The acceleration coefficient is the ratio between induced investments to a given net change in consumption expenditures.

$v = \Delta I / \Delta C$

Symbolically where v stands for acceleration coefficient; ΔI denotes the net changes in investment outlays; and ΔC denotes the net change in consumption outlays. Suppose an additional expenditure of Rs. 10 crores on consumption goods leads to an added investment of Rs. 20 crores in investment goods industries, then the accelerator is 2. The actual value of the accelerator can be one or even less than that.

In actual world, however, increased expenditures on consumption goods always lead to increased expenditures on capital goods. Hence acceleration coefficient is usually greater than zero. Where a good deal of capital equipment is needed per unit of output, the acceleration coefficient is very much more than unity.



In exceptional cases, the accelerator can be zero also. Sometimes it so happens that production of increased consumer goods (as a result of a rise in their demand) does not lead to an increase in the demand for capital equipment producing these goods.

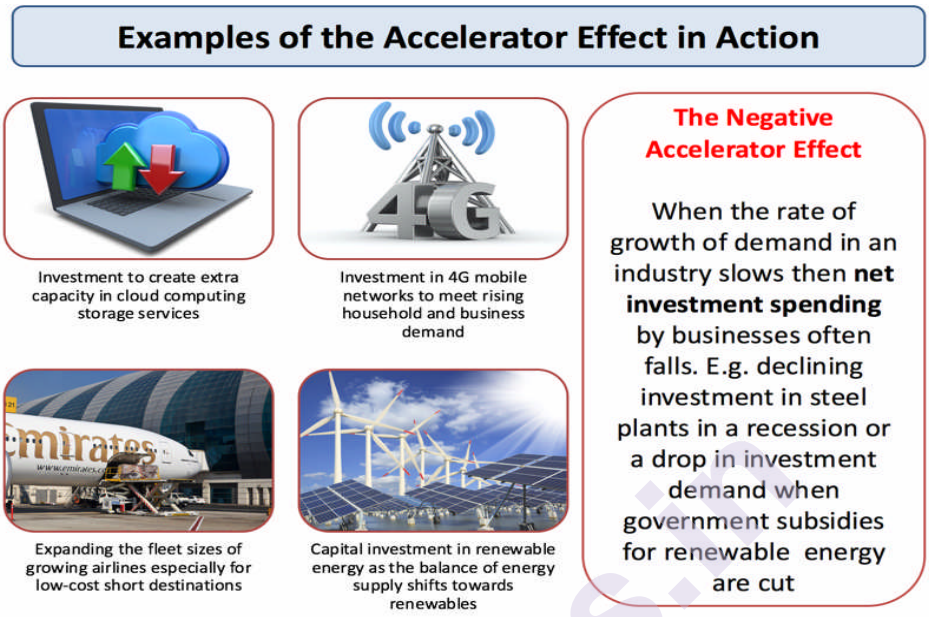
The principle of acceleration is basically a concept related to net investment. Therefore, we must derive an expression linking the accelerator with net investment. We know that gross investment has two components: net investment plus replacement of capital wearing out due to depreciation. We can write

Gross Investment = $I_{gt} = V(Y_t - Y_t - 1) + R$

This means that the quantum of gross investment in period t depends upon the value of acceleration effects of the change in income in the previous period and the need for replacement of capital.

$I_{net} = V(Y_t - Y_{t-1})$

Thus, net investment in period t is which means that net investment depends only on the rate of change of income and the accelerator (V).



4.7 ASSUMPTIONS OF THE ACCELERATOR

1. Under the principle of accelerator, it is assumed that ***there is no excess capacity existing in the consumer goods industries***. No machines are lying idle and shift working is not possible.
2. ***In capital goods industries, it has been assumed that there is an existence of surplus capacity.*** If there is no excess capacity in capital goods industries, increased demand for machines could not lead to increase in the supply of machines.
3. ***Output is flexible.*** The machine-making industry or capital goods industry can increase its output whenever desired.
4. ***The size of the accelerator does not remain constant over time.*** It value will be affected by the businessmen's calculations regarding the profitability of installing new plants to make more machines on the basis of their probable working life.
5. ***The demand for machines will remain stable in the future,*** although the increase in demand has suddenly cropped up.

Working of the Accelerator:

It is interesting to analyse the working of the Principle of Acceleration.

Accelerator depends primarily upon two factors:
(i) The capital-output ratio, and
(ii) The durability of the capital equipment.

A numerical example will clarify the dependence of acceleration value on the durability of the machine, capital-output ratio being given.

The following table 4.1 is meant to make two things clear about the accelerator:
(i) Given the same percentage change in consumption, the percentage change in induced investment depends directly on the durability of the machine. Greater is the life (durability) of the machine, greater the value of the accelerator;

(ii) Accelerator does not depend upon the change in the absolute level of consumption; it depends upon the rate of change of consumption.

In Case I in the Table, we assume that we need 100 machines to produce 1000 consumer goods (capital-output ratio being 1:10). Further we presume that the life of the machine (durability) is 10 years. Thus, after 10 years, the machine has to be replaced and 10 machines have to be replaced in each period in order to maintain the flow of 1000 consumer goods. This is called 'Replacement Demand.'

Now suppose there are 10% rise in the demand for consumer goods in period I (as shown in case I); the change in consumption will be of 100 such goods and we will need 110 machines to produce these goods (at the constant capital- output ratio of 1: 10). Thus, we need 20 machines in all, 10 machines being the addition to the stock of capital and 10 machines for replacement. Thus, a 10% rise in the demand for consumer goods leads to a 100% rise in the demand for investment goods (machines). This is what the principle of acceleration is intended to show. Accelerator shows that a small increase in consumption is likely to result in manifold increase in investment (called induced investment).

Value of the Accelerator Depends on the Durability of the Investment Goods and the Rate of Change of Consumption Expenditure

Assumptions: (i) Capital-output ratio 1: 10 for all the Cases.

	Period	Change in consumption	Capital Equipment needed	Gross Investment: Additions	Gross Investment: Replacement	Gross Investment: Total	Percentage change in Gross Investment
Case I. Life of the Machine 10 years							
10% rise in demand	0	1000	100	Nil	10	10	—
	1	1100	110	10	10	20	100% increase
Case II. Life of the Machine 20 years							
10% Rise in demand	0	1000	100	Nil	5	5	—
	1	1100	110	10	5	15	200% increase
Case III. Life of the Machine 5 years							
10% Rise in demand	0	1000	100	Nil	20	20	
	1	1100	110	10	20	30	50% increase
Case IV. Life of Machine 10 years							
10% Rise in demand	0	1000	100	Nil	10	10	—
	1	1100	110	10	10	20	100% increase
Demand in period 2 remains constant	2	1100	110	Nil	10	10	50% fall
Case V. Life of the Machine 10 years							
10% fall in demand	0	1000	100	Nil	10	10	—
	1	900	90	Nil	10-10	0	100% decrease

Table4.1

Now in case II, where the life of the machine is 20 years, other things being the same, a rise in the demand for consumer goods in the first period leads to 200% increase in gross investment.

Further, in case III, when the life of machine is 5 years, a 10% rise in the demand for consumer goods results merely in an increase of 50% in gross investment. It is, therefore, clear that:

Greater the durability (life) of the machine, the greater the value of the accelerator and higher the acceleration effect; smaller the durability, lower the value of the accelerator and lower are the acceleration effects.

In case IV, where we presume the life of the machines to be 10 years and capital-output ratio constant at 1: 10 (i.e., we need 100 machines to produce 1000 goods), we find that a 10% rise in demand in period I in consumption goods sector leads to 100% increase in gross investment, whereas in period V, when the demand for consumer goods does not rise and remains constant at 1000, there is a decline of 50% in gross investment.

Thus, we find that, even when there is no decrease in the demand for consumer goods, there is likely to be a decline in gross investment. The case demonstrates the sensitivity of investment to a cessation of economic activity. It is to be noted that it is the falling off in the rate of increase in consumption and not a decline in the absolute level of consumption which causes the contraction in the demand for machines.

Further, in case V, presuming the life of the machine to be 10 years, we find that we need machines to produce 1000 consumer goods. But when there is a fall in the demand for consumer goods to the extent of 10% in period I, we need 90 machines to produce 900 consumer goods.

There is 100% fall in the net investment caused by 10% fall in consumption. If, however, the demand for consumer goods falls by 20%, we would need 20% less machines and correspondingly we can expect the rate of investment to fall by 200%. But there is a saving grace. At the most what the producers can do is to produce no new machines at all, i.e., not to replace existing machines. They may allow some of the existing plants and equipment to wear out. Thus, when the economy is moving downwards, the fall in investment becomes confined to the demand for replacement and that can at the most fall to zero.

In other words, value of the accelerator during downward swing is limited by the inability of the demand for investment goods to fall below the value of replacement (depreciation) demand.

4.8 IMPLICATIONS OF THE ACCELERATOR EFFECT

- Investment tends to be more volatile than economic growth
- The rate of economic growth stays the same. Investment levels will also stay the same
- Investment spending can fall even when GDP is rising. This is because if there is a fall in the rate of economic growth firms may invest less.
- If GDP falls, investment spending can fall very significantly.

- **Accelerator Coefficient.** This is the level of induced investment as a proportion of a rise in National income accelerator coefficient = Investment/change in income.

Limitations of the accelerator effect

- Time lags in investment. Once a project is started, a firm will tend to want to complete it – even if demand slows down.
- Investment is affected by many other factors, such as investor confidence and the "animal spirits" of firms.
- It depends whether firms are optimistic about their industry. For example, a bookshop may be more nervous about investing in increasing capacity because they fear changing conditions. Whereas an online store may be more optimistic about the long-term future of their industry.

Despite these limitations, the principle of accelerator makes the process of income propagation more realistic. It explains volatile fluctuations in capital goods industries. However, in order to measure the total effect of an initial investment on income we must combine the accelerator and the multiplier analysis. The combined analysis is known as Super- Multiplier. It serves as a useful tool for business cycle analysis and as a helpful guide to stabilization policy.

4.9 SAVING AND CAPITAL FORMATION IN INDIA

4.9.1 Domestic Savings in India:

In India, domestic saving has been considered as one of the major sources of capital formation. The Central Statistical Organisation (CSO) has been preparing the estimates of domestic saving for the entire planning period of the country.

Saving has been defined by CSO, **"The excess of current income over current expenditure and is the balancing item on the income and outlay accounts of producing enterprise and households, government administration and other final consumers."**

For the estimation of domestic savings, the whole economy is broadly classified into three institutional sectors.

These include:
(a) Household,
(b) Private corporate and
(c) Public or Govt. sector

The saving of the household sector can be measured by:
(i) Total financial saving and
(ii) Saving in the form of physical assets.

The financial saving includes possession of currency, net deposits, investment in shares, debentures and government securities and small savings whereas, the physical assets include machinery, equipment, construction, inventories etc. held by individuals.

Secondly, the saving of the private corporate sector constitutes the net saving of non-government, non-financial companies, private financial institutions and co-operative institutions as revealed from the profit and loss accounts placed in the balance sheet of these companies.

Thirdly, the saving of the public sector includes the net savings of both departmental and non- departmental enterprises and savings of administrative departments shown as the excess of current receipts over current expenditures of the government.

Rate of Saving:

Rate of saving is measured as a proportion of GDP at market prices. The rate of saving in India in 1950-51 was 10.2 per cent of the GDP. Over the next twenty years, its trend varied marginally, to touch a rate of 16.3 per cent in the year 1972-73. During the decade of 1970s, there was a significant improvement in the savings rate which rose to 26.0 per cent in 1979-80. In light of this, the late 1970s was referred to as the golden era in the Indian savings scene. These rates of saving were not, however, sustained as it dropped substantially during the 1980s: it fell to 18.2 per cent in 1984-85. In the subsequent years, although it recovered somewhat to reach 22 per cent in 1992-93 arid reached its late 1980s level of 26.9 per cent in 1995-96, it declined again to below 25 per cent mark in late 1990s. The saving rate began to increase steadily in the 2000s with the Tenth Plan average (for 2002-07) registering 31.4 per cent.

India's Gross Savings Rate was measured at 30.0 % in Mar 2017, compared with 31.3 % in the previous year. India Gross Savings Rate is updated yearly, available from Mar 1951 to Mar 2017, with an average rate of 18.8 %. The data reached an all-time high of 36.8 % in Mar 2008 and a record low of 8.0 % in Mar 1954. CEIC calculates Gross Domestic Savings Rate from annual Gross Domestic Savings and annual Nominal GDP. Central Statistics Office provides Gross Domestic Savings in local currency and Nominal GDP in local currency based on SNA 2008, at 2011-2012 prices. Gross Domestic Savings Rate prior to 2012 is based on a combination of SNA 2008 and SNA 1993, at 2004-2005 prices. Gross Domestic Savings Rate is annual frequency, ending in March of each year.

The growth in saving is attributed to factors like:
i. Rising per capita income;
ii. Continued deepening of the financial system; and
iii. The diminishing share of agriculture in GDP.

4.9.2 Savings in India and selected countries in world.

India's savings performance has been quite impressive but it is much lower than that of China, Malaysia & Singapore. But it is much higher than many advanced and emerging market economies. Further, the gross domestic savings rates of India, China and Singapore continue to show an upward trend.

Gross Domestic Savings in India & selected countries (% of GDP)

Country	1990	2005	2009
India	22.8	33.5	33.8
China	39.1	47.6	52.1
Indonesia	32.3	29.2	33.8
Malaysia	34.5	42.8	36.0
Pakistan	11.1	15.2	111.4
Thailand	33.8	30.3	32.4
Singapore	44.0	47.1	N.A.
United States	16.3	14.1	11.4
World	23.2	21.7	18.9

Source: Reserve Bank India

India's savings performance over five year plans:

Five Year Plan	Gross Domestic Saving Rate (%)
First Plan (1951-56)	**9.2**
Second Plan (1956-61)	**10.6**
Third Plan (1961-66)	**12.1**
Fourth Plan (1969-74)	**14.7**
Fifth plan (1974-1979)	**18.6**
Sixth Plan (1980-85)	**17.9**
Seventh Plan (1985-90)	**20.0**
Eight Plan (1992-97)	**22.9**
Ninth Plan (1997-2002)	**23.6**
Tenth Plan (2002-2007)	**31.3**
Eleventh Plan (2007-12)	**33.7**

Table No. 4.2 Source: RBI, Report of the working group on savings during the twelfth FYP(2012-17)

In above table, India's Gross domestic Saving rate has increased over the five year plans from 9.2 % in 1950-51 to 33.7%

in 2007-12. After 1991, the introduction of economic reforms and financial liberalisation were the main reasons for growth in savings rate.

4.10 COMPOSITION OF DOMESTIC SAVINGS

The Gross Domestic savings of India consist of savings of public, private corporate and household sectors. Their trends are shown in the following table 12.3:-

Trends in savings rates (% of GDP at current Market Prices)

	1950-51	1990-91	2007-08	2011-12	2015-16
Gross Domestic Savings	9.5	18.5	36.8	34.6	32.3
Public Sector	2.1	1.8	5.0	1.5	1.3
Private Sector	0.9	2.6	9.4	9.5	11.9
Household Sector	6.5	22.9	22.4	23.6	19.2

4.10.1 Capital Formation in India: Trends and Composition

Capital formation or investment is the kingpin of economic development. Or one can also say that an important element in the growth process of developing countries like India is the rate of saving or the saving-income ratio.

Gross capital formation (GCF) refers to the aggregate of gross additions to fixed assets (i.e., fixed capital formation) and change in stocks during the counting period. Fixed assets comprise construction and machinery and equipment (including transport equipment and breeding stock, draught animals, dairy cattle and the like). Construction for military purposes (other than construction or alteration of family dwellings for military personnel) defence equipment, increase in the stocks of defence materials and durable goods in the hands of the households are excluded from the scope of capital formation.

It is because the accumulation of capital perhaps the most important source of growth in such countries depends on the rate of savings.

Savings-and investment are, thus, crucial to capital formation. One of the basic goals of Indian planning is the step-up of the rate of capital formation. In fact, the rate of capital formation or investment has risen substantially during nearly six decades (1951-2007) of planning.

Gross domestic savings increased from 8.9 p.c. of GDP in 1950-51 to 24.8 p.c. of GDP in 2006-07. Net domestic capital formation increased from 5.2 p.c. to 28.4 p.c. during this time. Table

4.4 shows growth of domestic savings and capital formation in the period 1950-2007.

Table 12.7: Rates of Saving and Capital Formation (%)			
	Gross Domestic Savings (as % of GDP)	Net Domestic Savings (as % NDP)	Net Domestic Capital Formation
1950-51	8.9	5.5	5.2
1970-71	14.6	8.6	9.5
1980-81	18.9	11.3	12.9
1990-91	23.1	15.1	18.7
2000-01	23.7	15.6	16.3
2005-06	34.3	26.5	27.9
2006-07	34.8	27.1	28.4

Table No. 4.4

In the 1980s, the performance of the Indian economy in relation to saving-investment rate was respectable by international standards and was certainly high for a market economy and in an unregimented society like India. At present, gross domestic savings stands out around 35 p.c., though less than the level attained in the late 70s.Meanwhile, capital-output ratio of 2.6 in the 1950s rose to almost 6.21 in the late 1970s. This high capital-output ratio indicates declining productivity of investment (largely due to an inefficient pattern of investment and under-utilisation of production capacity), which largely explains India's unimpressive growth performance.

Thus, saving-investment problem of the country in the 1970s, on a closer scrutiny, appears to be unsatisfactory. Obviously, the country could not register a higher growth rate.

Still then, gross and net saving rates standing around 35 p.c. and 27 p.c. in 2007 were definitely on the high side and comparable to the advanced nations of the world. Needless to say, adequate domestic saving is not an end in itself. What is required is how this increased saving is invested.

It is said that high rates, of investment are critical for rapid growth. Investment rate in the Eighth Plan averaged 24.4 p.c. and it remained almost unchanged in the Ninth Plan. After then it rose and in the Tenth Plan (2002-07), it accelerated to nearly 36 p.c. It is hoped by the planners that such high ratio of investment would be helpful to attain the growth rate of 9 p.c. during the Eleventh Plan (2007-2012).

4.10.2 Gross Fixed Capital Formation

The trends and composition of gross fixed capital formation in India is given in the following table:-

Capital Formation (as % of GDP at current market prices)

Item	1990-91 to 1999-2000	2000-01 to 2003-04	2004-05 to 2007-08	2011-12	2014-15	2015-16
Gross Fixed Capital Formation	23.1	24.0	30.8	34.3	30.8	29.3
1.Public Sector	8.6	6.7	7.6	7.3	7.5	7.4
2.Private sector	6.7	5.5	11.9	11.2	12.3	21.9
3.Household sector	7.9	11.8	11.3	15.7	11.0	--

Table no. 4.5 Source: Economic Survey 2013-14 to 2016-17

The gross fixed capital formation averaged 23.5 % over the period 1990-91 to 2003-04. It rose to 30.8 % during 2004-05 to 2007-08 and further to 34.3 % in 2011-12 and declined to 30.8% in 2014-15.

Investment by Private corporate sector: The rise in private sector investment is due to impact of reforms introduced by govt. in 1990s. The private sector has improved its productivity and efficiency with the help of technology to face global competition.

Investment by Public corporate sector: The dominance of public sector investment declined in the post reform period as compared to its dominant position in pre reform period due to non-acceptance of changing global situation except few PSUs.

Investment by Household sector: Household investment consists of physical assets, household construction, their possession of machinery and equipment and valuables. It increased on account of rise in per capita income and savings.

Conclusion: The gap between domestic savings and domestic investment is financed by net capital inflows from abroad. Thus the household financial savings need to be raised to keep the saving-investment gap at acceptable levels.

4.11 QUESTIONS

1. Explain the concept of Marginal efficiency of Capital.
2. Discuss the relationship between MEC and Rate of interest.
3. What are the factors affecting Marginal Efficiency of Capital?
4. Explain Principle of Acceleration.
5. Explain the trends and composition of Capital formation in India.
6. Discuss the trends and composition of Savings in India.

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Module 3

Unit - 5

GOVERNMENT

Unit Structure:

5.0 OBJECTIVES

- Introduction to Public Goods and Merit Goods
- To acquaint the students with concepts of tax and non-tax revenue
- To study the merits & demerits of direct & Indirect taxes
- To understand Impact, shifting and Incidence of Tax.
- To study causes of growth if public expenditure

5.1 INTRODUCTION

Public goods are defined as products where, for any given output, consumption by additional consumers does not reduce the quantity consumed by existing consumers. There are very few absolutely public goods, but common examples include law, parks, street-lighting, defence etc. As there is no marginal cost in producing the public goods, it is generally argued that they must be provided free of charge, because otherwise the people who benefit less than the cost of using the public good, will not use it. That will lead to a loss of welfare. Also the goods are mostly non-excludable, that means that if once provided everybody can use them, which when charged will lead to "free-riding". So these goods will not be provided by free markets as there is no way to charge for the usage, the solution is, that state must provide these goods and finance them from taxes collected from everybody.

In Economics, a public good is a good that is both non-excludable and non-rivalrous in that individuals cannot be

effectively excluded from use and where use by one individual does not reduce availability to other.
The characteristics of pure public goods are the opposite of private goods:

1. **Non-excludability:** The benefits derived from pure public goods cannot be confined solely to those who have paid for it. Indeed non-payers can enjoy the benefits of consumption at no financial cost – economists call this the 'free-rider' problem. With private goods, consumption ultimately depends on the ability to pay.

2. **Non-rival consumption:** Consumption by one consumer does not restrict consumption by other consumers – in other words the marginal cost of supplying a public good to an extra person is zero. If it is supplied to one person, it is available to all.

3. **Non-rejectable:** The collective supply of a public good for all means that it cannot be rejected by people, a good example is a nuclear defence system or flood defence projects.

There are relatively few examples of pure public goods
Examples include flood control systems, some of the broadcasting services provided by the Door-Darshan, public water supplies, street lighting for roads and motorways, lighthouse protection for ships and also national defence services.

5.2 POLICING- IS POLICING A PUBLIC GOOD?

The general protection that the police services provide in deterring crime and investigating criminal acts serves as a public good. But resources used up in providing policing means that fewer

resources are available elsewhere. Private protection services such as private security guards, privately bought security systems and detectives are private goods because the service is excludable and rival in consumption and people and businesses are often prepared to pay a high price.

5.3 WHY ARE PUBLIC GOODS AN EXAMPLE OF MARKET FAILURE?

- Pure public goods are not normally provided by the private sector because they would be unable to supply them for a profit.
- It is up to the government to decide what output of public goods is appropriate for society.
- To do this, it must estimate the social benefits from making public goods available.

5.3.1 What is meant by the Free Rider Problem?

- Because public goods are non-excludable it is difficult to charge people for benefitting form a good or service once it is provided.
- The free rider problem leads to under-provision of a good and thus causes market failure.

5.3. What are Quasi-Public Goods?

A quasi-public good is a near-public good i.e. it has many but not all the characteristics of a public good. Quasi-public goods are:-

1. **Semi-non-rival:** up to a point, extra consumers using a park, beach or road do not reduce the space available for others. Eventually beaches become crowded as do parks and other leisure facilities. Open access Wi-Fi networks become crowded.

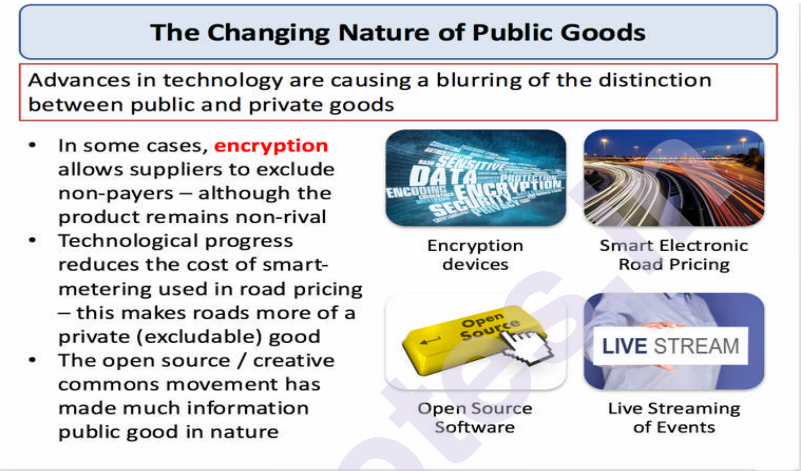
2. **Semi-non-excludable:** it is possible but often difficult or expensive to exclude non-paying consumers. E.g. fencing a park or beach and charging an entrance fee; building toll booths to charge for road usage on congested routes.

The air waves – a public good or quasi -public good?

- The airwaves used by mobile phone companies, radio stations and television companies are owned by the government.

- Do they count as a pure public good? One person's use of the airwaves rarely limits how other people can benefit from utilising them.
- At peak times, the airwaves become crowded.

- The government also controls the issue of licences needed to operate mobile phone services using the airwaves in the India. In 2000, they auctioned off five licences for 3rd generation mobile phone services and raised billion rupees in doing so. In 2016, the government auctioned off super-fast 4G mobile phone spectrums.



5.3.3 The case for government intervention with public goods

Overcoming the Free-Rider:-

1. Direct provision of a public good by the government can help to overcome the free-rider problem which leads to market failure.

2. The non-rival nature of consumption provides a strong case for the government rather than the market to provide and pay for public goods.

3. Many public goods are provided more or less free at the point of use and then paid for out of general taxation or another general form of charge such as a licence fee.

4. State provision may help to prevent the under-provision and under-consumption of public goods so that social welfare is improved.

5. If the government provides public goods they may be able to do so more efficiently because of economies of scale.

6. Merit goods on the other hand are products generally not distributed by means of the price system, but based on merit or need, because people although having perfect knowledge would

buy the wrong amount of them. These goods can be supplied by free market, but not on the right quantity. Merit goods are, for example, education and to some extent the health-care. They are provided by state as "good for you".

7. Merit goods are those goods and services that the government feels that people will under-consume, and which ought to be subsidised or provided free at the point of useso that consumption does not depend primarily on the ability to pay for the good or service.

8. The concept of a merit good introduced in economics by Richard Musgrave (1957, 1959) is a commodity which is judged that an individual or society should have on the basis of some concept of need, rather than ability and willingness to pay.

Comparing Merit Goods and Public Goods

Merit Goods	Public Goods
Provided by both public & private sector	• Normally funded and provided by the government
Positive marginal cost of supplying to extra users	• Collective consumption – provide to one and you provide to all
Limited in supply – potentially high opportunity cost	• Largely unconstrained in supply
Rival – consumption by one reduces availability to others	• Non-rival in consumption
Excludable e.g. private health care and education	• Non-excludable – giving rise to the free rider problem
Rejectable by those unwilling to pay for the good or service	• Non-rejectable – usually funded by general taxes

Why does the government provide merit goods and services?

1. To encourage consumption so that positive externalities of merit goods can be achieved for example free inoculation against infectious diseases.

2. To overcome the information failures linked to merit goods.

3. On grounds of equity – because the government believes that consumption should not be based solely on the grounds of ability to pay for a good or service.

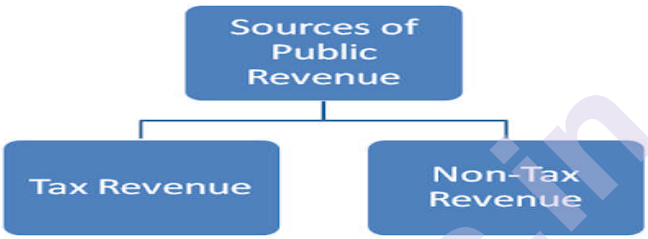
5.4 PUBLIC REVENUE

5.4.1 Meaning of Public Revenue:

Public finance is a concept that includes Public expenditure, public debt and public revenue and income. Public revenue is exactly income generated from sources of government in order to

meet requirements of expenses of public. The income of the government through all sources is called public income or public revenue.

The revenues from different sources received by the government are called public revenues. Some are regularly collected whereas some are irregularly collected. Revenues are not repayable. Some of them are obtained from the sale of public utilities whereas some are obligatory payments to the government. Public revenue generally refers to government revenue. Some important sources or concepts that are included in public revenue consist of taxes, fees, sale of public goods and services, fines, donations, etc.



5.4.2 The main sources of public revenue are: Tax and Non-tax revenue Sources of Public Revenue

A) Tax Revenue:

The chief source of public revenue is Tax. To define tax, it is said that tax is a mandatory imposition of duty on public authority by government organizations to meet requirements of general public as a whole.

Therefore, with the above defined term, some points are highlighted as below:

i) A Tax is a compulsory duty levied by the government. If any individual refuses to comply with tax payments, he can be punished or penalized
ii) Tax basically involves some understanding and sacrifice on the basis of a tax payer.
iii) Tax is a duty and not a penalty.
iv) Most part of revenue income is generated from tax by the central government.

5.4.3 Broad classification of taxes is: Direct and Indirect Taxes

1. Direct taxes:

Direct taxes are levied on wealth and income of individuals or organizations. These taxes are personal income tax, corporate

tax, and gift or wealth tax. The impact of direct taxes is on the same person.

Direct taxes are developing in nature and the tax rate increases along with the tax base.

Progressive direct taxes are involved in falling income discrimination especially in rising countries.

Following major direct taxes are stated:

1. Personal Income Tax:

Personal income tax is duty imposed on an individual or group of individuals after specific permissible deductions.

2. Corporate Tax:

Corporate tax is a duty that has to be paid on the profits registered corporate firms.

Corporate tax is direct tax because the company is given legal entity.

Present corporate tax rates are:

1. For Indian Organization – 30% + 7.5% surcharge.
2. For Foreign organization – 40% + 2.5% surcharge.

In the year 2009-2010, Corporate Tax added to 40% of the Total Tax Revenue.

3. Other Direct Taxes:

List of other direct taxes include, Wealth tax, Interest tax, gift tax, Expenditure tax, etc.

The share of these taxes is unimportant.

2. Indirect taxes

Indirect taxes are imposed on goods & commodities. These taxes include sales tax, excise duty, service tax, customs duty, VAT, etc. The impact of indirect taxes may be implied on different people.

In direct taxes are not progressive but regressive in nature. Here, the burden to pay duties is indirectly or directly bearded by the consumer irrespective of their income level. Indirect taxes are of utmost importance for countries that are developing and face low income levels.

Major Indirect Taxes:

a) Excise Duty :
These taxes are levied on manufactured goods and consumable goods in India

Excise duty is the chief and single largest source to generate revenue income

Rates of excise duty faces a declining trend

b) Customs Duty:
This duty is imposed on exports of selective range and imports with revenue point of view, Custom duty has less importance. Peak rate of custom levy is 10%

c) Service Tax:
This tax is imposed by specific category of firms, agencies or persons. Rate of service taxes have been increased progressively.

d) Goods and Service Tax
Goods and service tax includes range of all taxes like excise duty, service tax, goods tax, VAT, etc. It covers goods and service charges in mostly all sectors. It generally simplifies the complexity of charges on good and services.

5.4.4 Non-Tax revenues

Non Tax Revenue comprises all revenues apart from taxes accumulated to the Government.
Non tax revenues are funds that are generated from internal sources.

Important sources of Non tax revenues include:-

a) Special Assessment:
This can be called as betterment charge. This tax is imposed to a certain category of members of a community who are generally benefited from governmental activities or public functions like constructions of road, railways, parks, etc. Therefore, government imposes special charges on such properties.

b) Surplus of Public Enterprises
The government has arranged public sector enterprises that are concerned in commercial activities. The surpluses generated of these enterprises are a significant source of non-tax revenue. These incomes are in the form of profits that are known as commercial revenues.

c) Fees:

A fee is a significant source of managerial non-tax revenue charged by Government authorities for depiction services to the members of the public. There is no compulsion to pay fees. All those utilize services may pay fees. Fees may be charged for getting licenses, passports or registrations, filing of court cases, etc.

d) Fine and Penalties

These are general sources of administrative non tax revenues. These may be applied on public for non-compliance with certain rules and regulations. These are not considered as the major source of revenue for the government.

e) Grants and Gifts

Grants are financial support.

These are provided to public authority to perform certain social activities. These are generated by higher public authority to lower ones. e.g. World bank gives grants to State bank. There is no repayment compulsion. Gifts and donations are voluntarily made by individuals, organizations or foreign governments to the Central Government. These gifts are made by natural feeling in case of disasters or natural calamities. Gifts are not considered as a source of income.

Therefore, tax plays an important part in generating government revenue. Non-tax revenue is important in developing revenue.

5.4.5 Distinction between Direct and Indirect Taxes

1. A direct tax is not intended to be shifted, whereas an indirect tax is so intended.

2. Taxes on commodities are generally called indirect taxes as they completely or partially shifted consumers. But it should be remembered that all the commodity taxes are not indirect taxes. A tax is said to be indirect if its burden is shifted finally to the consumer.

3. Direct tax is the tax in which the commodity is taxed by the government, yet its price remains unaffected or changed. In this case the tax is not shifted to consumer and the tax will be called direct tax. If the tax is shifted, the tax is indirect, otherwise indirect.

Merits and Demerits of Direct and Indirect Taxes

Merits of Direct Tax:

1. **Equitable**, i.e., the principle of progression is applied
2. **Economical**, i.e., the cost of collection is small
3. **Certain**, i.e., the direct tax can be calculated with a fair degree of precision
4. **High degree of elasticity**, i.e., the direct tax can be raised much easily
5. **Civic consciousness**, direct tax creates civic consciousness among tax-payers
6. **Reduction of inequalities**, i.e., the objective of direct tax is to reduce economic inequalities by taxing higher income earners at progressive tax rates.

Demerits of Direct Tax:

1. **Inconvenient:** for the tax payer to pay and file the income tax return
2. **Unpopular tax system**
3. **Tax evasion is common**
4. **Arbitrary tax rates**

Merits of Indirect Tax:

1. **Convenient:** for the tax payer to pay and it requires no filing of returns
2. **No tax evasion**
3. **Unified tax rate**
4. **Beneficial social effects** (in case of harmful drugs and intoxicants)
5. **Capital formation**
6. **Re-allocation of resources**
7. **Wide coverage**

Demerits of Indirect Tax:

1. **Uncertain**
2. **Regressive**
3. **No civic consciousness**
4. **Inflationary**
5. **Loss of economic welfare**

Thus direct and indirect taxes form major sources of Public revenue.

5.4.6 Impact, Shifting and Incidence of Tax

Taxation is the process through which the government raises its revenue. The government charges various taxes among them income taxes, VAT, customs duty, exercise duty, among others.

Meaning of Incidence:

The problem of the incidence of a tax is the problem of who pays it. Taxes are not always borne by the people who pay them in the first instance. They are sometimes shifted on to other people. They are sometimes shifted on to other people. Incidence means the final resting place of a tax. The incidence is on the man' who ultimately bears the money burden of the tax.

The impact of the tax: is on the person who pays it in the first instance and the incidence is on the one who finally bears it. If an excise duty is imposed on sugar, it is paid in the first instance by the sugar manufacturers; the impact is on them. But the duty will be added to the price of the sugar sold, which, through a series of transfers, will ultimately fall on the consumer of sugar. The incidence is, therefore, on the final consumer.

It is, thus, easy to distinguish between the impact and incidence of taxation:

1. Impact refers to the initial burden of the tax, while incidence refers to the ultimate burden of the tax.

2. Impact is at the point of imposition, incidence occurs at the point of settlement.

3. The impact of a tax falls upon the person fr6m whom the tax is collected and the incidence rests on the person who pays it eventually. For example, suppose a tax — excise duty — is imposed on soap.

Its impact is on the producers, in the first instance, as they are liable to pay it to the government. But, the producers may succeed in collecting it from the consumers by raising the price of soap by the amount of tax. In that case, consumers eventually pay the tax and so the incidence falls upon them.

4. Impact may be shifted but incidence cannot. For, incidence is the end of the shifting process. Sometimes, however, when no shifting is possible, as in the case of income tax or such other direct taxes, the impact coincides with incidence on the same person.

Shifting of Tax:

Tax shifting refers to the transfer of the burden of tax from the impact to the incidence. This may be through forward shifting or backward shifting.

Incidence is Different from Shifting:

Incidence is final resting place of a tax while shifting is process of transferring money burden of tax to someone else. Shifting finally ends in incidence. When a person on whom tax is levied tries to shift tax on to the other, he may succeed in shifting tax completely,

partly, or may not succeed at all. Shifting of tax can take place in two directions, forward and backward. If tax is shifted, from seller to consumer, it is a case of forwarding shifting. Forward shifting refers to an instance whereby a seller transfers the tax charge to the consumer. In such an instance the consumer bears the tax burden by paying a higher price for a good or service. In this case, the incidence is the impact is the seller but he transfers the tax burden to the buyer (incidence).

Backward shifting: takes place when consumers do not purchase commodities at increased prices. Sellers are then forced to cut down prices and bear burden of tax themselves. Backward shifting is thus performed by buyers. Backward shifting employs a reversal approach whereby a seller, for example, buys goods or services at a lower price from the supplier.

Importance of incidence:
The study of incidence is very-important. The tax system is not merely aimed at raising a certain amount of revenue, but the aim is to raise it from these sections of the people who can best bear the tax. The aim, in short, is to secure a just distribution of the tax burden.

This obviously cannot be done unless an effort is made to trace the incidence of each tax levied by the State. We must know who pays it ultimately in order to find out whether it is just to ask him to pay it, or whether the burden imposed on him is according to the ability of the tax-payer or not.

Factors determining Tax Incidence

(a) Elasticity: While considering incidence we consider both elasticity of demand and elasticity of supply. If the demand for the commodity taxed is elastic, the tax will tend to be shifted to the producer but in case of inelastic demand, it will be largely borne by the consumer. In case of elastic supply, the burden will tend to be on the purchaser and in the case of inelastic supply on the producer.

(b) Price: Since shifting of the tax burden can only take place through a change in price, price is a very important factor. If the tax leaves the price unchanged, the tax does not shift.

(c) Time: In short run, the producer cannot make any adjustment in plant and equipment. If, therefore, demand falls on account of price rise resulting from the tax, he may not be able to reduce supply and may have to bear the tax to some extent. In the long run, however, full adjustment can be made and tax shifted to the consumer.

(d) Cost: Tax raises the price; rise in price reduces demand and reduced demand results in the reduction of output. A change in the scale of production affects cost and the effect will vary according as the industry is decreasing, increasing or constant costs industry. For instance, if the industry is subject to decreasing cost, a reduction in the scale of production will raise the cost and hence price, shifting the burden of the tax to the consumer.

(e) Nature of tax: The incidence of taxation will definitely depend on the nature of tax. For example, an indirect tax's burden is fall on the consumer.

(f) Market form: Another factor determining the incidence of taxation is the market form. Under perfect competition, no single producer or single purchaser can affect the price; hence shifting of tax in either direction is out of the question. But under monopoly, a producer is in a position to influence price and hence shift the tax.

Commodity Tax:

1. Taxes on commodities may take several forms:
   (a) Tax on manufacture or production of a commodity called excise duties,
   (b) Tax on sale of a particular commodity known as sales tax, and
   (c) Import or export of commodities known as custom duties.
2. The commodity tax is tended to be shifted to the consumer and from consumer to the producer
3. Tax on production tends to raise the price and will therefore be normally borne by the consumer
4. But the consumption tax is likely to check consumption and tends to be shifted backward to the producer.
5. Therefore, the tax on commodity will be partly borne by the producer and partly borne by the consumer.
6. The portions of commodity tax to be borne by the producer and consumer depends on the degree of elasticity of demand and supply:

Elasticity	Incidence
Elastic demand	More tax burden on the supplier / producer
Inelastic demand	More tax burden on the buyer / consumer
Elastic supply	More tax burden on the buyer / consumer
Inelastic supply	More tax burden on the supplier / producer

7. As a rule, the consumer bears a smaller part of the tax when the demand is more elastic than the supply

This may happen that the price may not rise at all. This is because the consumers have been able to discover an untaxed

supply of the commodity or substitute. In this case, the tax burden will fall on the producer.

5.5 PUBLIC EXPENDITURE

Public expenditure refers to Government expenditure i.e. Government spending. It is incurred by Central, State and Local governments of a country.Public expenditure can be defined as, "The expenditure incurred by public authorities like central, state and local governments to satisfy the collective social wants of the people is known as public expenditure."

Throughout the 19th Century, most governments followed laissez faire economic policies & their functions were only restricted to defending aggression & maintaining law & order. The size of public expenditure was very small. But now the expenditure of governments all over has significantly increased. In the early 20th Century, John Maynard Keynes advocated the role of public expenditure in determination of level of income and its distribution. In developing countries, public expenditure policy not only accelerates economic growth & promotes employment opportunities but also plays a useful role in reducing poverty and inequalities in income distribution.

5.5.1 Classification of Public expenditure

Classification of Public expenditure refers to the systematic arrangement of different items on which the government incurs expenditure. Different economists have looked at public expenditure from different point of view. The following classification is a based on these different views.

1. Functional Classification

Some economists classify public expenditure on the basis of functions for which they are incurred. The government performs various functions like defence, social welfare, agriculture, infrastructure and industrial development. The expenditure incurred on such functions fall under this classification. These functions are further divided into subsidiary functions. This kind of classification provides a clear idea about how the public funds are spent.

2. Revenue and Capital Expenditure

Revenue expenditure are current or consumption expenditures incurred on civil administration, defence forces, public health and education, maintenance of government machinery. This type of expenditure is of recurring type which is incurred year after year.

Public expenditure has been classified into various categories. Firstly, Government expenditure has been classified into revenue expenditure and capital expenditure. Revenue expenditure is a current or consumption expenditure incurred on civil administration (i.e., police, jails and judiciary), defence forces, public health and education. This revenue expenditure is of recurrent type which is incurred year after year.

On the other hand, capital expenditures are incurred on building durable assets, like highways, multipurpose dams, irrigation projects, buying machinery and equipment. They are non-recurring type of expenditures in the form of capital investments. Such expenditures are expected to improve the productive capacity of the economy. Capital expenditure is incurred on building durable assets. It is a non-recurring type of expenditure. Expenditure incurred on building multipurpose river projects, highways, steel plants etc., and buying machinery and equipment is regarded as capital expenditure.

Comparison between Revenue Expenditure and Capital Expenditure

Revenue Expenditure	**Capital Expenditure**
1. It is incurred for normal running of government departments and maintenance.	1. It is incurred for acquisition of capital assets.
2. It does not result in creation of assets.	2. It results in creation of assets.
3. It is recurring in nature and incurred regularly.	3. It is non-recurring in nature.
4. It is short period expenditure.	4. It is generally a long period expenditure.
5. For example, expenditure on medicines and salaries of doctors for rendering services.	5. For example, construction of a hospital building is capital expenditure.

3. Transfer and Non-Transfer Expenditure

A.C. Pigou, the British economist has classified public expenditure as :-

1. Transfer expenditure
2. Non-transfer expenditure

Transfer Expenditure:-

Transfer expenditure relates to the expenditure against which there is no corresponding return.

Such expenditure includes public expenditure on :-

1. National Old Age Pension Schemes,
2. Interest payments,
3. Subsidies,
4. Unemployment allowances,
5. Welfare benefits to weaker sections, etc.

By incurring such expenditure, the government does not get anything in return, but it adds to the welfare of the people, especially belong to the weaker sections of the society. Such expenditure basically results in redistribution of money incomes within the society.

Non-Transfer Expenditure:-

The non-transfer expenditure relates to expenditure which results in creation of income or output. The non-transfer expenditure includes development as well as non-development expenditure that results in creation of output directly or indirectly.

1. Economic infrastructure such as power, transport, irrigation, etc.
2. Social infrastructure such as education, health and family welfare.
3. Internal law and order and defence.
4. Public administration, etc.

By incurring such expenditure, the government creates a healthy conditions or environment for economic activities. Due to economic growth, the government may be able to generate income in form of duties and taxes.

5.5.2 Productive and Unproductive Expenditure

This classification was made by Classical economists on the basis of creation of productive capacity.

Productive Expenditure:-

Expenditure on infrastructure development, public enterprises or development of agriculture increase productive capacity in the economy and bring income to the government. Thus they are classified as productive expenditure.

Unproductive Expenditure:-

Expenditures in the nature of consumption such as defence, interest payments, expenditure on law and order, public administration, do not create any productive asset which can bring income or returns to the government. Such expenses are classified as unproductive expenditures.

5.5.3 Development and Non-Development Expenditure

Modern economists have modified this classification into distinction between development and non-development expenditures.

Development Expenditure:-
All expenditures that promote economic growth and development are termed as development expenditure. These are the same as productive expenditure.

Non-Development Expenditure:-
Unproductive expenditures are termed as non development expenditures.

5. Grants and Purchase Price

This classification has been suggested by economist Hugh Dalton.

Grants:-
Grants are those payments made by a public authority for which their may not be any quid-pro-quo, i.e., there will be no receipt of goods or services. For example, old age pension, unemployment benefits, subsidies, social insurance, etc. Grants are transfer expenditures.

Purchase prices:-
Purchase prices are expenditures for which the government receives goods and services in return. For example, salaries and wages to government employees and purchase of consumption and capital goods.

6. Classification According to Benefits

Public expenditure can be classified on the basis of benefits they confer on different groups of people.

1. **Common benefits to all** : Expenditures that confer common benefits on all the people. For example, expenditure on education, public health, transport, defence, law and order, general administration.

2. **Special benefits to all** : Expenditures that confer special benefits on all. For example, administration of justice, social security measures, community welfare.

3. **Special benefits to some** : Expenditures that confer direct special benefits on certain people and also add to general

welfare. For example, old age pension, subsidies to weaker section, unemployment benefits.

7. Hugh Dalton's Classification of Public Expenditure

Hugh Dalton has classified public expenditure as follows :-

1. **Expenditures on political executives**: i.e. maintenance of ceremonial heads of state, like the president.
2. **Administrative expenditure**: to maintain the general administration of the country, like government departments and offices.
3. **Security expenditure**: to maintain armed forces and the police forces.
4. **Expenditure on administration of justice** : include maintenance of courts, judges, public prosecutors.
5. **Developmental expenditures** : to promote growth and development of the economy, like expenditure on infrastructure, irrigation, etc.
6. **Social expenditures** : on public health, community welfare, social security, etc.
7. **Public debt charges** : include payment of interest and repayment of principle amount.

5.5.4 Causes of rising Public expenditure:

There are several factors that have led to enormous increase in public expenditure through the years

1) Defence expenditure - due to modernization of defence equipment by navy, army and air force to prepare the country for war or for prevention causes-for-growth-of-public-expenditure.

2) Population growth – It increases with the increase in population, more of investment is required to be done by government on law and order, education, infrastructure, etc. investment in different fields depending on the different age group is required.

3) Welfare activities – welfare, mid-day meals, pension provisions etc.

- Provision of public and utility services – provision of basic public goods given by government (their maintenance and installation) such as transportation.
- Accelerating economic growth – in order to raise the standard of living of the people.

- Price rise – higher price level compels government to spend increased amount on purchase of goods and services.[6]
- Increase in public revenue – with rise in public revenue government is bound to increase the public expenditure.
- International obligation – maintenance of socio economic obligation, cultural exchange etc. (these are indirect expenses of government)

4) Wars and social crises – fighting amongst people and communities, and prolonged drought or unemployment, earthquake, hurricanes or tornadoes may lead to increase in public expenditure of a country. This is because it will involve governments to re-plan and allocate resources to finance the reconstruction.

5) Creation of super national organizations – E.g., the United Nations, NATO, European community and other multinational organizations that are responsible for the provision of public goods and services on an international basis, have to be financed out of funds subscribed by member states, thereby adding to their public expenditure.

6) Foreign aid – Acceptance by the richer industrialised countries of their responsibility to help the poor developing countries has channelled some of the increased public expenditure of the donor country into foreign aid programmes.

7) Inflation – This is the general rise in price level of goods and services. It increases the cost of all activities of the public sector and thus a major factor in growth in money terms of public expenditure.

Thus, in modern era, government's responsibility has been continuously increasing resulting in rising public expenditure.

5.5.5 Trends in Revenue and Capital Expenditure of Central government of India

Per cent in GDP

Heads of Expenditure	2010-11	2014-15	2015-16	2016-17	2017-18
1. Revenue Expenditure	13.4	11.8	11.2	11.1	10.9
2. Capital Expenditure	2.0	1.6	1.8	1.9	1.8
Total Expenditure (1+2)	15.4	13.4	13.0	13.0	12.7

Source: Economic Survey of India 2016-17

1. The revenue expenditure of the central government has been increased from Rs. 144.10 billion in 1980-81 to Rs. 15,476 billion in 2015-16.

2. The share of revenue expenditure in the total expenditure of the central government increased from 63.3% in 1980-81 to 86.7% in 2015-16.

Revenue expenditure of central government in India (Rs. in Billion)

Heads of Expenditure	1980-81	1990-91	2015-16
Revenue Expenditure of which	144.10	735.15	15476.73
a) Defence expenditure	32.78	108.74	1432.36
b) Interest payments	26.04	214.98	4426.20
c) Subsidies	20.28	121.50	2578.01

3. The major part of the revenue expenditure consists of defence expenditure, interest payments and subsidies. They together account for 54.5% of total revenue expenditure.

The share of capital expenditure in the total expenditure has come down from about 37% in 1980-81 to about 13% in 2015-16.

5.6 QUESTIONS

1. What is the difference between Public goods and Merit goods?
2. Public goods are an example of market failure – Explain why?
3. Explain in detail the classification of Public revenue.
4. What are the different types of direct taxes?
5. What are the various types of Indirect taxes?
6. Explain the merits and demerits of taxation.
7. What is Impact, shifting and incidence of tax?
8. Explain classification of public expenditure.
9. What are the causes of rising public expenditure in India?

Unit - 6

SUBSIDIES, DEFICITS AND GOODS & SERVICES TAX (GST)

Unit Structure:

6.0 OBJECTIVES

- Introduction to different types of Subsidies
- To acquaint the students with importance of Subsidies in India
- To study the different types of deficits in budget
- To understand revenue, budgetary, Fiscal & primary deficits
- To study the reforms introduced through GST

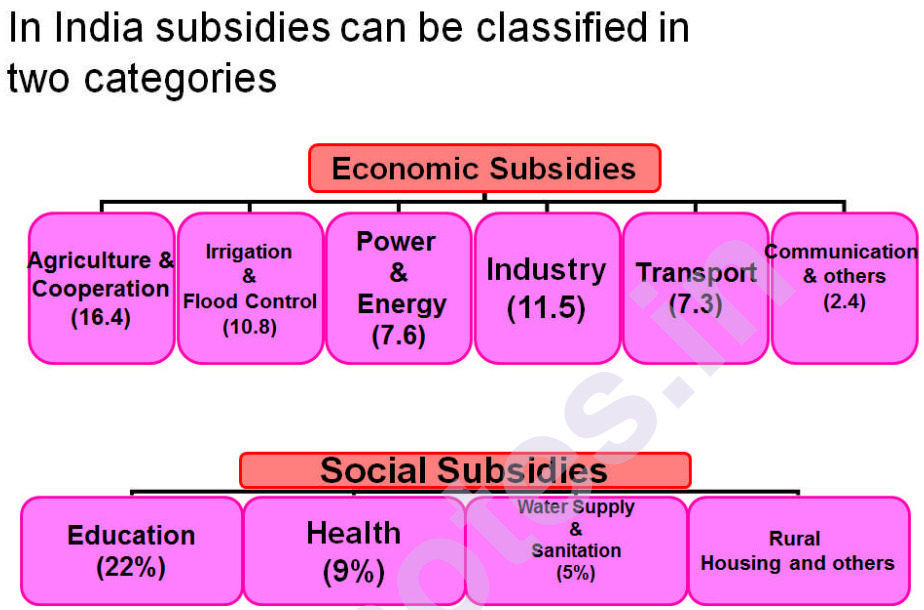
6.1 SUBSIDIES

Subsidy is a transfer of money from the government to an entity. It leads to a fall in the price of the subsidised product. The objective of subsidy is to bolster the welfare of the society. It is a part of non-plan expenditure of the government. Major subsidies in India are petroleum subsidy, fertiliser subsidy, food subsidy, interest subsidy, etc. The Indian government has, since independence, subsidized many industries and products, from petrol to food. Loss-making state-owned enterprises are assisted by the government and farmers are given access to free electricity. Overall, a 2005 article by **International Herald Tribune** stated that subsidies amounted to 14% of GDP. As much as 39% of subsidized kerosene is stolen.

On the other hand, India spends relatively little on education, health, or infrastructure. Urgently needed infrastructure investment has been much lower than in China. According to the UNESCO, India has the lowest public expenditure on higher education per student in the world.

6.1.1 Different types of subsidies

1. Cash Subsidy: Providing food or fertilizer to consumer at lower price.
2. Interest or credit subsidies
3. Tax subsidies
4. In kind subsidies
5. Procurement subsidies
6. Regulatory subsidy



6.1.2 Classification of Subsidy

Merit I: Elementary education, primary health centres, prevention and control of diseases, social welfare and nutrition, soil and water conservation, and ecology and environment.

Merit II*:* Education (other than elementary), sports and youth services, family welfare, urban development, forestry, agricultural research and education, other agricultural programmes, special programmes for rural development, land reforms, other rural development programmes, special programmes for north-eastern areas, flood control and drainage, non-conventional energy, village and small industries, ports and light houses, roads and bridges, inland water transport, atomic energy research, space research, oceanographic research, other scientific research, census surveys and statistics, meteorology.

Non-Merit*:* All others.

Aggregate central budgetary subsidies in 1998-99 are estimated to be Rs. 79828 crore, amounting to 4.59 per cent of GDP, and constituting 53.40 per cent of the net revenue receipts of the centre, which is the highest draft of subsidies on revenue receipts recorded so far.

Apart from the above, the subsidies can also be divided into **broad subsidies** and **narrow subsidies**. The most common forms of subsidies are those to the producer or the consumer. Producer/Production subsidies ensure producers are better off by supplying market price support, direct support, or payments to factors of production. Consumer/Consumption subsidies commonly reduce the price of goods and services to the consumer.

6.1.3 Difference between Subsidies and Taxes

Subsidies are the opposite of taxes because government gives money to individuals or firms, instead of collecting money from individuals or firms. A subsidy in its simplest form is a negative tax – a reverse flow (transfer) from the government to the public – or an income/consumption supplement for individuals. Further, Subsidies, like taxes, may thus be lump sum, proportional (ad valorem or specific) or progressive. Subsidies are as much an economic tool as are taxes to facilitate smooth functioning of the economy.

Subsidies are commonly used by governments to promote general welfare (eg. housing, education, sustenance). However, they can also be used as tools of political and corporate cronyism or to erect barriers to trade.

6.1.4 Difference between Subsidy and Transfer Payments

Transfer payments refer to the payments that are made without any exchange of goods or services. The generally result in the redistribution of income. A subsidy is a type of transfer payment. Other examples are welfare expenditures and social security contribution by the government in pension schemes.

Estimation of Subsidy on Public Goods, Merit Goods and Non-Merit classification

The estimation of the subsidies is done by the standard classification into public, merit and non-merit goods. A brief description of the same is given below:

Public Goods

- Public good is a good in that individuals cannot be effectively excluded from use and where use by one individual does not reduce availability to others. Examples of public goods include fresh air, national defence, flood control systems, public transport and street lighting. Since these services are *available to all,* they are normally characterised by non-rivalry and non-excludability in consumption. Since these services are available to all citizens, they do not exclude anyone. Thus, such goods cannot be priced and hence are not included in the calculation of subsidies.

Merit Goods

- Merit goods are those goods whose consumption leads to **positive externalities**. This implies that when a merit good is consumed, the public benefit is greater than the private benefit. For example, vaccination against a contagious disease is a merit good**.** Similarly, other merit goods are environmental protection and minimum level of education (primary education), for all. The social benefit resulting from these goods/services is much greater than the sum of private benefits to individual consumers. This is because these goods contain elements of 'externality' beneficial to the society as a whole. Other examples of merit goods are roads and bridges, flood control and research pertaining to agriculture, space, atomic energy, etc. The availability of benefits in the form of externality justifies the subsidies on these goods.

Non-Merit Goods

- The non-merit goods are those goods whose consumption leads to **negative externalities**. In consumption of such goods, the benefit of subsidies provided on such goods accrues to the individual consumers. In case of non-merit goods, the cost of providing the commodity/service to the society is higher than the price fixed for providing it to the consumer. These subsidies result in the transfer of benefits to the individual consumer in a number of ways as follows:

- **Cash subsidies –** Providing food or fertilisers to the consumer at prices lower than those at which the government procures the commodities.
- **Interest or credit subsidies** : Loans given at rates lower than market rates. This takes the form of concessional credit to small scale industries or priority sector loans to individuals to buy a taxi, an auto-rickshaw or to set up some small enterprise by buying some equipment.
- **Tax subsidies**: Tax exemption of medical expenses, postponing collection of tax arrears
- **In-kind subsidies:** Provision of free medical services though government dispensaries, provision of equipment to physically handicapped persons.
- **Procurement subsidies:** Purchase of food-grains at an assured price which is intended to be higher than the prevailing market price.
- **Regulatory subsidies**: Fixation of prices of goods produced by the public sector at less than the cost with a view to providing inputs to industry or helping certain other categories of consumers. Examples are making steel, coal or other minerals

available to industry, providing electricity to farmers at a rate much lower than the cost.

6.1.5 Budgetary Subsidies

The subsidies which are provided in the Budget are budgetary subsidies. The estimation of budgetary subsidies are computed as excess of the cost of providing a service over the recoveries from the service. These costs are taken as the sum of the following:

- Revenue expenditure on the concerned service;
- Annual depreciation on cumulative capital expenditure for the creation of physical assets in the service; and
- Interest costs of the cumulative capital expenditure, equity investment in public enterprises, and loans given for the service concerned including those to public enterprises.

6.1.6 Direct and Indirect Subsidies

Direct subsidies are given in terms of cash grants, interest-free loans and direct benefits. The direct subsidies boost the purchasing power of the beneficiary and may help in raising the standard of living. In case of agriculture, direct subsidies help the farmers to purchase required inputs from markets. Proper identification of beneficiaries is a big challenge in disbursement of direct subsidies. Indirect subsidies are given in terms of tax rebates, insurance premium, low interest loans, depreciation write offs etc. The cheap loans provided to farmers for agriculture is an example of indirect farm subsidy.

6.1.7 Effects of subsidies

Economic effects of subsidies can be broadly grouped into:-

1. Allocative effects: these relate to the sectoral allocation of resources. Subsidies help draw more resources towards the subsidised sector

2. Redistributive effects: these generally depend upon the elasticities of demands of the relevant groups for the subsidised good as well as the elasticity of supply of the same good and the mode of administering the subsidy.

3. Fiscal effects: subsidies have obvious fiscal effects since a large part of subsidies emanate from the budget. They directly increase fiscal deficits. Subsidies may also indirectly affect the budget adversely by drawing resources away from tax-yielding sectors towards sectors that may have a low tax-revenue potential.

4. Trade **effects:** a regulated price, which is substantially lower than the market clearing price, may reduce domestic supply and lead to an increase in imports. On the other hand, subsidies to domestic producers may enable them to offer internationally competitive prices, reducing imports or raising exports.

6.1.8 Subsidies may also lead to perverse or unintended economic effects. They would result in inefficient resource allocation if imposed on a competitive market or where market imperfections do not justify a subsidy, by diverting economic resources away from areas where their marginal productivity would be higher. Generalised subsidies waste resources; further, they may have perverse distributional effects endowing greater benefits on the better off people. For example, a price control may lead to lower production and shortages and thus generate black markets resulting in profits to operators in such markets and economic rents to privileged people who have access to the distribution of the good concerned at the controlled price.

Subsidies have a tendency to self-perpetuate. They create vested interests and acquire political hues. In addition, it is difficult to control the incidence of a subsidy since their effects are transmitted through the mechanism of the market, which often has imperfections other than those addressed by the subsidy. On 29 June 2012, C Rangarajan, Chairman of the Prime Minister's Advisory Council in view of present difficult economic position, advocated cutting down of fuel and fertiliser subsidies to keep the fiscal deficit within the budgeted level of 5.1 per cent.

6.1.9 Future of Subsidies in India

The study brings to the fore the massive magnitude of subsidies in the provision of economic and social services by the government. Even if merit subsidies are set aside, the remaining subsidies alone amount to 10.7% of GDP, comprising 3.8% and 6.9% of GDP, pertaining to Centre and State subsidies respectively. The average all-India recovery rate for these non-merit goods/services is just 10.3%, implying a subsidy rate of almost 90%.

The macroeconomic costs of unjustified subsidies are mirrored in persistent large fiscal deficits and consequently higher interest rates. In addition, unduly high levels of subsidisation reflected in corresponding low user charges produce serious micro-economic distortions as well. Its prime manifestations include excessive demand for subsidised services, distortions in relative prices and misallocation of resources. These are discernible in the case of certain input based subsidies. These problems are further compounded where the subsidy regime is plagued by leakages which ensure neither equity nor efficiency.

The agenda for reforms should therefore focus on:

- Reducing the overall scale of subsidies
- Making subsidies as transparent as possible
- Using subsidies for well-defined economic objectives
- Focusing subsidies to final goods and services with a view to maximising their impact on the target population at minimum cost
- Instituting systems for periodic review of subsidies

6.2 DEFICIT FINANCING

Deficit financing is the budgetary situation where expenditure is higher than the revenue. It is a practice adopted for financing the excess expenditure with outside resources. The expenditure revenue gap is financed by either printing of currency or through borrowing.

Nowadays most governments both in the developed and developing world are having deficit budgets and these deficits are often financed through borrowing. Hence the fiscal deficit is the ideal indicator of deficit financing.

In India, the size of fiscal deficit is the leading deficit indicator in the budget. It is estimated to be 3.9 % of the GDP (2015-16 budget estimates). Deficit financing is very useful in developing countries like India because of revenue scarcity and development expenditure needs.

Various indicators of deficit in the budget are:

1. Budget deficit = total expenditure – total receipts
2. Revenue deficit = revenue expenditure – revenue receipts
3. Fiscal Deficit = total expenditure – total receipts except borrowings
4. Primary Deficit = Fiscal deficit- interest payments
5. Effective revenue Deficit-= Revenue Deficit – grants for the creation of capital assets
6. Monetized Fiscal Deficit = that part of the fiscal deficit covered by borrowing from the RBI.

Simply budget deficit is printing money to finance a part of the budget. In India, there is no budget deficit at present. Hence one there is no budget deficit entry in Government's budget. Another absent deficit identity is monetized fiscal deficit. This is borrowing by the government from RBI to finance the budget. Such a borrowing practice is not adopted in India from 1997 onwards. Hence the monetized fiscal deficit is also not there.

6.2.1 Types of Budgetary Deficit

The different types of budgetary deficit are explained in following points :-

1. Revenue Deficit

Revenue Deficit takes place when the revenue expenditure is more than revenue receipts. The revenue receipts come from direct & indirect taxes and also by way of non-tax revenue.The revenue expenditure takes place on account of administrative expenses, interest payment, defence expenditure & subsidies.

Table below indicate revenue deficit of the central government of India.

Revenue Deficit - Central Government of India

Year	Rs. Crore	% of GDP
1990-91	18,562	3.3
2005-06	94,644	2.7

From the above table it is clear that revenue deficit was Rs. 18,562 crores in 1990-91 and Rs. 94,644 crores in 2005-06. As proportion of GDP, revenue deficit increased from 1.5% in 1980-81 to 3.3% in 1990-91 and declined to 2.7% in 2005-06. The decline is due to the passing of the Fiscal Responsibility and Budget Management Act in 2002.

2. Budgetary Deficit

Budgetary Deficit is the difference between all receipts and expenditure of the government, both revenue and capital. This difference is met by the net addition of the treasury bills issued by the RBI and drawing down of cash balances kept with the RBI. The budgetary deficit was called deficit financing by the government of India. This deficit adds to money supply in the economy and, therefore, it can be a major cause of inflationary rise in prices. Budgetary Deficit of central government of India was Rs. 2,576 crores in 1980-81, it went up to Rs. 11,347 crores in 1990-91 to Rs. 13,184 crores in 1996-97.

The concept of budgetary deficit has lost its significance after the presentation of the 1997-98 Budget. In this budget, the practice of ad hoc treasury bills as source of finance for government was discontinued. Ad hoc treasury bills are issued by the government and held only by the RBI. They carry a low rate of interest and fund monetized deficit. These bills were replaced by ways and means advance. Budgetary deficit has not figured in union budgets since 1997-98. Since 1997-98, instead of budgetary deficit, Gross Fiscal Deficit (GFD) became the key indicator.

3. Fiscal Deficit

Fiscal Deficit is a difference between total expenditure (both revenue and capital) and revenue receipts plus certain non-debt capital receipts like recovery of loans, proceeds from disinvestment. In other words, fiscal deficit is equal to budgetary deficit plus governments market borrowings and liabilities. This concept fully reflects the indebtedness of the government and throws light on the extent to which the government has gone beyond its means and the ways in which it has done so. in 1980-81, fiscal deficit was Rs. 7,733 crores. Between 1980-81 and 1990-91 it increased 5 times to Rs. 37,606 crores. Since the introduction of economic reforms in 1991-92, the government has tried to restrict the growth of fiscal deficit. As percentage of GDP fiscal deficit declined from 6.2% in 2001-02 to 4.1% in 2005-06.

4. Primary Deficit

The fiscal deficit may be decomposed into primary deficit and interest payment. The primary deficit is obtained by deducting interest payments from the fiscal deficit. Thus, primary deficit is equal to fiscal deficit less interest payments. It indicates the real position of the government finances as it excludes the interest burden of the loans taken in the past.

Table below indicate primary deficit as a Percentage of GDP.

Primary *Deficit as % of GDP*

Year	% of GDP
1990-91	2.8
2005-06	0.4

Primary deficit of the central government of India was 16,108 crores in 1990-91, it reduced to 14,591 crores in 2005-06.

5. Monetised Deficit

Monetised Deficit is the sum of the net increase in holdings of treasury bills of the RBI and its contributions to the market borrowing of the government. It shows the increase in net RBI credit to the government. It creates equivalent increase in high powered money or reserve money in the economy.

Conclusion

All these budgetary deficit reveal fiscal imbalance. Fiscal imbalance & budget deficit result in harmful consequences like mounting inflation, deficit in balance of payment, etc. It has also adversely affect the growth of the economy. The government must introduce fiscal correction policies to overcome the deficit budget and fiscal crisis.

6.3 GOODS AND SERVICES TAX (GST)

6.3.1 Genesis:

The idea of moving towards GST was first mooted by the then Union Finance Minister in his Budget speech for 2006-07. Initially, it was proposed that GST would be introduced from 1st April 2010.The Empowered Committee of State Finance Ministers (EC) which had formulated the design of State VAT was requested to come up with a roadmap and structure for GST. Joint Working Groups of officials having representatives of the States as well as the Centre were set up to examine various aspects of GST and draw up reports specifically on exemptions and thresholds, taxation of services and taxation of inter-State supplies. Based on discussions within and between it and the Central Government, the EC released its First Discussion Paper (FDP) on the GST in November, 2009. This spelt out features of the proposed GST and has formed the basis for discussion between the Centre and the States so far.

The introduction of the Goods and Services Tax (GST) is a very significant step in the field of indirect tax reforms in India. By amalgamating a large number of Central and State taxes into a single tax, GST will mitigate ill effects of cascading or double taxation in a major way and pave the way for a common national market. From the consumer's point of view, the biggest advantage would be in terms of reduction in the overall tax burden on goods, which is currently estimated to be around 25%-30%. It would also imply that the actual burden of indirect taxes on goods and services would be much more transparent to the consumer. Introduction of GST would also make Indian products competitive in the domestic and international markets owing to the full neutralization of input taxes across the value chain of production and distribution. Studies show that this would have a boosting impact on economic growth. Last but not the least, this tax, because of its transparent and self-policing character, would be easier to administer. It would also encourage a shift from the informal to formal economy. The government proposes to introduce GST with effect from 1st July 2017.

GST is one indirect tax for the whole nation, which will make India one unified common market. GST is a single tax on the supply of goods and services, right from the manufacturer to the consumer. Credits of input taxes paid at each stage will be available in the subsequent stage of value addition, which makes GST essentially a tax only on value addition at each stage. The final consumer will thus bear only the GST charged by the last dealer in the supply chain, with set-off benefits at all the previous stages.

GST is one indirect tax for the whole nation, which will make India one unified market.

- GST is a comprehensive value added tax on goods and services
- In a GST regime, goods and services are not differentiated for taxation
- Destination based consumption tax
- Multi-point taxation along the supply chain of goods of services

6.3.2 Some of the key features of GST are listed as below:

1.Dual Tax Structure

- Centre and State both will levy tax on every transaction related to supply of goods/ services
- Tax to be levied by Centre and States to be called Centre GST ('CGST') and State GST ('SGST')

2.Inter-State Transactions and the IGST Mechanism:

The Centre would levy and collect the Integrated Goods and Services Tax (IGST) on all inter-State supply of goods and services. The IGST mechanism has been designed to ensure seamless flow of input tax credit from one State to another. The inter-State seller would pay IGST on the sale of his goods to the Central Government after adjusting credit of IGST, CGST and SGST on his purchases (in that order). The exporting State will transfer to the Centre the credit of SGST used in payment of IGST. The importing dealer will claim credit of IGST while discharging his output tax liability (both CGST and SGST) in his own State. The Centre will transfer to the importing State the credit of IGST used in payment of SGST.

3. Destination-Based Consumption Tax: GST will be a destination-based tax. This implies that all SGST collected will ordinarily accrue to the State where the consumer of the goods or services sold resides.

4. Computation of GST on the basis of invoice credit method: The liability under the GST will be invoice credit method i.e. cenvat credit will be allowed on the basis of invoice issued by the suppliers.

5. Payment of GST: The CGST and SGST are to be paid to the accounts of the central and states respectively.

6. Goods and Services Tax Network (GSTN):A not-for-profit, Non-Government Company called Goods and Services Tax Network (GSTN), jointly set up by the Central and State Governments will provide shared IT infrastructure and services to the Central and State Governments, tax payers and other stakeholders.

7. INPUT TAX CREDIT (ITC) SET OFF : ITC for CGST & SGST will be taken for taxes allowed against central and state respectively**.**

8. GST on Imports : Centre will levy IGST on inter-State supply of goods and services. Import of goods will be subject to basic customs duty and IGST.

9. Maintenance of Records : A taxpayer or exporter would have to maintain separate details in books of account for availment, utilization or refund of Input Tax Credit of CGST, SGST and IGST.

10. Administration of GST : Administration of GST will be the responsibility of the GST Council , which will be the apex policy making body of the GST. Members of GST Council comprised of the Central and State ministers in charge of the finance portfolio.

11. Goods and Service Tax Council: The GST Council will be a joint forum of the Centre and the States. The Council will make recommendations to the Union and the States on important issues like tax rates, exemption list, threshold limits, etc. One-half of the total number of Members of the Council will constitute the quorum of GST council.

6.3.3 The benefits of GST can be summarized as under:

A. For business and industry

1. **Easy compliance:** A robust and comprehensive IT system would be the foundation of the GST regime in India. Therefore, all tax payer services such as registrations, returns, payments, etc. would be available to the taxpayers online, which would make compliance easy and transparent.

2. **Uniformity of tax rates and structures**: GST will ensure that indirect tax rates and structures are common across the country, thereby increasing certainty and ease of doing business. In other words, GST would make doing business in the country tax neutral, irrespective of the choice of place of doing business.

3. **Removal of cascading**: A system of seamless tax-credits throughout the value-chain, and across boundaries of States, would ensure that there is minimal cascading of taxes. This would reduce hidden costs of doing business.

4. **Improved competitiveness**: Reduction in transaction costs of doing business would eventually lead to an improved competitiveness for the trade and industry.

5. **Gain to manufacturers and exporters**: The subsuming of major Central and State taxes in GST, complete and comprehensive set-off of input goods and services and phasing out of Central Sales Tax (CST) would reduce the cost of locally manufactured goods and services. This will increase the competitiveness of Indian goods and services in the international market and give boost to Indian exports. The uniformity in tax rates and procedures across the country will also go a long way in reducing the compliance cost.

B. For Central and State Governments

1. **Simple and easy to administer:** Multiple indirect taxes at the Central and State levels are being replaced by GST. Backed with a robust end-to-end IT system, GST would be simpler and easier to administer than all other indirect taxes of the Centre and State levied so far.

2. **Better controls on leakage**: GST will result in better tax compliance due to a robust IT infrastructure. Due to the seamless transfer of input tax credit from one stage to another in the chain of value addition, there is an in-built mechanism in the design of GST that would incentivize tax compliance by traders.

3. **Higher revenue efficiency**: GST is expected to decrease the cost of collection of tax revenues of the Government, and will therefore, lead to higher revenue efficiency.

C. For the consumer

1. **Single and transparent tax proportionate to the value of goods and services:** Due to multiple indirect taxes being levied by the Centre and State, with incomplete or no input tax credits available at progressive stages of value addition, the cost of most goods and services in the country today are laden with many hidden taxes. Under GST, there would be only one tax from the manufacturer to the consumer, leading to transparency of taxes paid to the final consumer.

2. **Relief in overall tax burden:** Because of efficiency gains and prevention of leakages, the overall tax burden on most commodities will come down, which will benefit consumers.

6.3.4 Various GST Tax Slabs in India

No Tax

- Goods - No taxes will be levied on goods like sanitary napkins, deities made of stone, marbles or wood, Rakhis

without any precious metals like gold, silver, raw material used in brooms, Saal leaves and fortified milk ,fruits, vegetables, bread, salt, bindi, curd, sindoor, natural honey, bangles, handloom, besan, flour, eggs, stamps, printed books, judicial papers, and newspapers.

- Services - All hotels and lodges who carry a tariff below □ 1,000 are exempted from taxes under GST.

GST Tax Slab of 5%

- Goods - The goods which will attract a taxation of 5% under GST include skimmed milk powder, fish fillet, frozen vegetables, coffee, coal, fertilizers, tea, spices, pizza bread, kerosene, ayurvedic medicines, agarbatti, sliced dry mango, insulin, cashew nuts, unbranded namkeen, lifeboats , Ethanol- Solid biofuel pellets- Handmade carpets and other handmade textile floor coverings (including namda/gabba)- Hand-made braids and ornamental trimming in the piece

- Services - Small restaurants along with transport services like railways and airways, Standalone ACs non-ACs Restaurants and those which serve liquor, Takeaway Food, Restaurants in hotels with a room tariff less than □7,500 (no input credit for these restaurants), will come under this category.

GST Tax Slab of 12%

- Goods - Items coming are the tax slab of 12% include frozen meat products, butter, cheese, ghee, pickles, sausage, fruit juices, namkeen, tooth powder, medicine, umbrella, instant food mix, cell phones, sewing machine, man-made yarn, - Handbags including pouches and purses; jewellery box, Wooden frames for painting, photographs, mirrors etc, Ornamental framed mirrors, Brass Kerosene Pressure Stove, Art ware of iron, etc.

- Services - Business class air tickets will attract a tax of 12% under GST.

GST Tax Slab of 18%

- Goods - As mentioned above, most of the items are part of this tax slab. Some of the items are flavoured refined sugar, cornflakes, pasta, pastries and cakes, detergents, washing and cleaning preparations, safety glass, mirror, glassware, sheets, pumps, compressors, fans, light fitting, chocolate, preserved vegetables, tractors, ice cream, sauces, soups, mineral water, deodorants, suitcase, brief case, vanity case, oil powder, chewing gum, hair shampoo, preparation for facial make-up, shaving and after-shave items, washing powder, Refrigerators, Water Heaters, Washing Machines, Televisions (up to 68 cm),

Vacuum Cleaners, Paints, Hair Shavers, Hair Curlers, Hair Dryers, Scent Sprays, Lithium-ion batteries, detergent, stones used in flooring, marble & granite, sanitary-ware, leather clothing, wrist watches, cookers, stoves, cutlery, telescope, goggles, binoculars, oil powder, cocoa butter, fat, artificial fruits, artificial flowers, follage, physical exercise equipment, musical instruments and their parts, stationery items like clips, some diesel engine parts, some parts of pumps, electrical boards, panels, wires, razor and razor blades, furniture, mattress, cartridges, multi-functional printers, door, windows, aluminium frames, .

- Services - Restaurants located inside hotels with tariffs of ₹7,500 and above, outdoor catering(input tax credit to be available) , Actual bill of hotel stay below ₹7,500, IT and Telecom services and financial services along with branded garments will be part of this tax slab.

GST Tax Slab of 28%

- Goods - Over 200 goods will be taxes at a rate of 28%. The goods which will be part of this category under GST are sunscreen, pan masala, dishwasher, weighing machine, paint, cement, vacuum cleaner. Other items include automobiles, hair clippers, motorcycles.

- Services - As mentioned above, five-star hotels, whose actual bill of hotel stay above ₹7,500, racing, movie tickets and betting on casinos and racing will come under this category.

6.3.5 Evaluation of (GST)

One year into the goods and services tax (GST) regime, early-day jitters have given way to general acceptance that this may not be the most perfect single tax system, but it's working. There are many issues that remain to be addressed, but the fact that some of the knotty ones have been resolved gives rise to confidence that even these will be sorted out. Here's how the past year panned out.

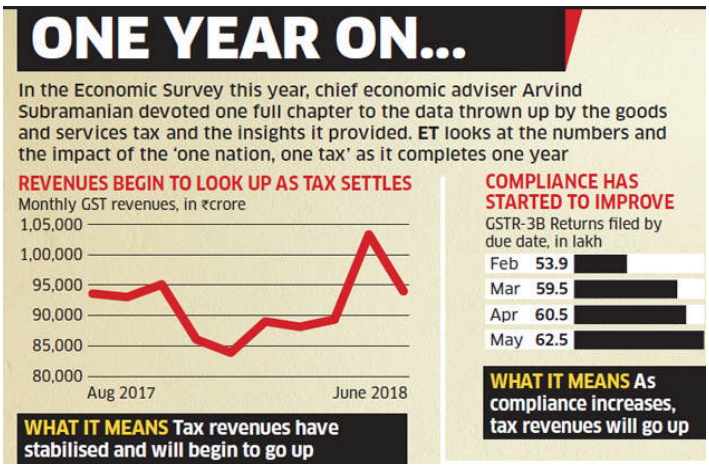
1. Inflation rate didn't rise: GST, it was widely feared, would cause inflation to rise, as with many countries that launched a single tax regime. That hasn't happened in India. The recent spike in consumer inflation has been due to high food and fuel prices, unrelated to GST. What helped? The much-criticised multi-slab structure. It ensured the levy was as close as possible to the existing rate, which meant the incidence of tax didn't rise. The second factor was the anti-profiteering authority. Though the body was set up after the GST rollout, the prospect of its establishment was enough to ensure businesses did not abuse the transition.

2. Single national market: Long queues of trucks at state borders disappeared as check posts were dismantled, creating a seamless national market. These barriers had restricted movement of goods across the country, leading to huge delays and increasing transaction costs for the logistics sector, eventually translating into higher costs for consumers.

3. One tax nationally: A consumer in Kanyakumari now pays the same tax on an item as one in Jammu & Kashmir. GST has also allowed businesses to streamline distribution systems—production, supply chain, storage—to make them more efficient, having previously been forced to design them keeping state taxes in mind.

4. Formalisation kicks off, tax base begins to widen: One of the expected benefits was that GST would encourage formalisation of the economy. Evasion would stop making sense, thanks to transparent digital processes and incentive of input credit and invoice matching. With number of registrations crossing 10 million, it seems more businesses are signing up for GST. Rise in the Employees' Provident Fund Organisation subscriber base provides further evidence of the same More people filing income tax returns could also have something to do with GST.

5. Everyone wins: As many as 17 taxes and multiple cesses were subsumed into GST, aligning India with global regimes. Central taxes such as excise duty, services tax, countervailing duty and state taxes — including value added tax, Octroi and purchase tax — were all rolled into one. The new regime provided for free flow of tax credits and did away with cascading due to tax on tax, boosting company financials and resulting in reduced prices for consumers. It also ensured a single law for the whole country with uniform procedures and rules, which reduces compliance burden and business complexity. The government sacrificed revenues, but improved compliance should cover any gap.



The government should bring down the slabs from four to three as collections have been above the mark and accordingly rate moderation should be warranted, encouraging certain sectors boosting the economy.

Undoubtedly, GST has received positive as well as negative responses as befits its characterisation as a toddler. However, further steps will bring out the true sense of One Nation One Tax.

6.4 QUESTIONS

1. Explain the meaning and types of subsidies.
2. Write a note on Classification of subsidies.
3. Explain economic effects of subsidies.
4. Discuss the meaning and types of deficit financing.
5. Write a brief note on Goods and Services Tax.
6. Explain the impact and evaluation of GST.

Module 4

Unit - 7

EXTERNAL SECTOR

Unit Structure :

7.0 OBJECTIVES

- To study the concept of Balance of Payments
- To understand the concept of Balance of Payments
- To study different types of disequilibrium in Balance of Payments
- To study various causes leading to disequilibrium in Balance of Payments
- To Understand the measures to correct disequilibrium in BOP

7.1 CONCEPT OF BALANCE OF PAYMENT

The Balance of Payment is defined as **"a systematic record of all economic transactions between the residents of a country and residents of foreign countries during a certain period".**

- Systematic record refers to the system of double entry book keeping system.
- Economic transactions include all such transactions that involve the transfer of title or ownership.
- The term 'resident' refers to the nationals of the reporting country. For example, tourists, diplomats, military personnel, temporary and migratory workers and the branches of foreign

companies operating in the reporting country do not fall in the category of residents.

- The time-period is generally one year.

Usefulness of the Concept of Balance of Payment.

- The Balance of Payment data is useful in policy formulation for the external sector.
- To study the strengths and weaknesses of a country in the field of international trade.
- Inter-temporal study helps in knowing the Balance of Payments' position of the country.
- Study of other countries' Balance of Payments' position helps in identifying threats and opportunities that exist in the international arena for a given country.
- Study helps in converting weaknesses into strengths and threats into opportunity.
- It helps in knowing changes in the composition and direction of foreign trade (See tables 15.1 and 15.2).

Table 7.1 - Composition of India's Exports (% Change)			
Category	1960 - 61	2015 - 16	2016 - 17
Agriculture and allied exports	44.2	12.6	12.3
Manufactured Goods	45.3	73.5	73.6
Source : IES 2017 - 18, Volume 2, Table 7.3 B, p. A109			

Table 7.2 - Direction of Indian Exports (percentage change)		
Region	**2004-05**	**2016-17**
Europe	23.6	19.3
America	20.1	19.9
Asia	47.9	49.9
Africa	6.7	8.4
CIS and Baltics	1.3	1.0
Source: IES 2017-18, Volume 2, Table 7.4B, p.A118		

- It indicates future consequences of the post trade performance of a country. Regular and large deficit shows growing international indebtedness and regular large surplus indicates the dangers of inflation.

7.2 ACCOUNTING STRUCTURE OF BALANCE OF PAYMENTS ACCOUNTS

The Balance of Payments accounts are divided into two categories namely current and capital accounts. Payments made by residents of the reporting country to foreigners are called debits and payments made by the residents of the rest of the world to the reporting country are called credits.

Current Account. The current account contains entries related to export and import of merchandise and service that change the current level of consumption or national income of the country.

Capital Account. The capital account contains entries relating to movement of short term and long term capital both in and out of the country along with gold and foreign exchange reserves leading to increase or decrease of a country's total stock of capital.

Table 7.3
Balance of Payments Accounts (A hypothetical example)

Credit (Receipts) (in Rs. Crore)		**Debit (Payments) (in Rs. Crore)**	
(A) Current Account			
1. Goods Exported	800	8. Goods imported	1200
2. Services Exported	400	9. Services imported	800
3. Incomes from investment in the foreign country.	400	10. Incomes to foreigners on investment in the reporting country.	800
4. Unilateral receipts.	800	11. Unilateral payments.	400
Total	**2400**	**Total**	**3200**
(B) Capital Account			
5. Long term borrowing	800	12. Long term lending	320
6. Short term borrowing	400	13. Short term lending	240
7. Sale of gold/assets	400	14. Purchase of gold/assets	200
		15. Errors and omissions	40
Total	**4000**	**Total**	**4000**

Current Account. The current account of the Balance of payments of a country consists of real economic transactions of actual transfer of goods and services from one country to other

countries. While imports reduce national income, exports lead to rise in national income.

- Entries at Serial Numbers 1 to 4 and 8 to 11 are real or income creating transactions.
- The current account has two types of income creating transactions i.e. trade or merchandise account and the invisible account.
- The trade account consists of exports of goods. Thus, the income earned from goods exported (Rs.800 Crore) is shown as the credit entry and the import payment (Rs.1200 Crore) is shown as the debit entry.
- The invisible account consists of all other transfer payments in the form of incomes. Income earned through the export of services is insurance, banking, interest on loans, tourist expenditure, transport charges etc. The reporting country has earned Rs.400 Crore from the export of services and has spent Rs.800 Crore for receiving these services from foreign countries.
- The second entry in the invisible account is income from investment in the foreign countries through interest/dividend. This amounts to Rs.400 Crore on the credit side and Rs.800 Crore on the debit side.
- The third entry in the invisible account shows unilateral receipts on the credit side and unilateral payments on the debit side. These payments and receipts consist of gifts and charities which are given and received freely without the obligation to repay. Thus, receipts or payments because of goods exported or imported constitute the visible account or the trade account. All other income earning transactions constitute invisible accounts.

According to the International Monetary Fund, the following transactions have been accepted as invisible transaction:

1. Travel because of business, education and health.
2. Insurance premium and payment of claims.
3. Investment income including interest, rents, dividends and profits.
4. Transnational transportation of goods, warehousing during transit and other transit expenses.
5. Income from services such as advertising, commissions, pensions, patent fees, royalties, subscription to periodicals, membership fees etc.

6. Repayment of commercial credits.
7. Donations, migrant remittances, legacies.
8. Contractual amortization and depreciation of direct investment.

Capital Account:

The capital account of Balance of Payment consists of those items which affect the existing capital stock of the country. The broad categories of capital account items are short term and long term capital movements both in and out of the country and changes in the gold and exchange resources.

- Short term capital movements include purchase of short term securities such as treasury bills, commercial bills and acceptance bills, speculative purchase of foreign currency and cash balances held by foreigners.
- Long term capital movements include direct investments in shares or bonds or real estate or physical assets such as plant building, equipment etc., portfolio investment in government securities, and securities of firms etc. and amortization of capital.
- Export of capital is a debit item whereas export of merchandise is a credit item because of export of merchandise leads to inflow of foreign exchange which adds to the national income of the reporting country and export of capital leads to outflow of foreign exchange which leads to withdraw from the foreign exchange resources of the reporting country.
- Gold and foreign exchange reserves are maintained to impart stability to the exchange rate of the home currency and to make payments to the creditors in case there are payment deficits on all other accounts.
- Assistance provided by IMF, World Bank etc. is shown in the capital account. Countries like the US and the UK show a separate official settlement account in addition to current and capital accounts. The official settlement account records the change in the foreign exchange reserves and reserves of monetary gold held by the monetary authority.
- Increase in reserves is debit items and decrease is credit item.

Balance of Payment and Balance of Trade:

Balance of Payment is a wide concept than Balance of Trade. Balance of payment includes all the entries on account of trading in goods, services, capital flow etc. Balance of trade refers to only the difference between the value of imports and exports of merchandise or visible items whereas balance of payment covers total debits and credits of all items visible and invisible.

The net balance on the visible items i.e., merchandise exports and imports are called balance of trade. If exports are greater than imports, the Balance of Trade is positive and vice versa. The balance on current account is carried over to the capital account. A deficit in Balance of Trade is made good by external borrowing or assistance which will have a matching surplus entry in the capital account thus balancing the accounts.

Balance of Payments Always Balance:

The Balance of Payment accounts is maintained on the basis of double entry book system where total debits will always equal total credits. Hence in the accounting sense, the balance of payment will always balance. However, imbalances do exist in different account heads as shown in the table. The balance of trade reflects a deficit of Rs.400 Crore (Rs.800 – 1200). Net negative exports of goods indicate unfavorable balance of trade. On the invisible account, the balance of services and the balance of investment income also show a deficit of Rs.400 Crore each. However, there is a surplus of Rs.400 Crore on account of net unilateral receipts. Thus, there is a deficit of Rs.400 Crore each on the visible as well as the invisible account. The net balance which is the sum of net visible exports and net invisible exports is the balance on current account. In this case, there is a deficit on the current account amounting to Rs.500 Crore. You will notice that the deficit on current account is made good on the capital account. The balance of loan transactions and the balance of monetary gold flow i.e., net borrowing and net monetary gold flow shows a positive balance of Rs.640 crore and Rs.200 crore. Errors and omissions of Rs.40 crore is entered to make the deficit of Rs.800 crore on current account match with the surplus of Rs.840 crore on the capital account. The items errors and omissions indicate the value of certain discrepancies in estimation resulting in situation where debits are not exactly equal to the credits. A negative value indicates that receipts are over-stated or payments are understated or both. Similarly, a positive value indicates that receipts are understated or payments are overstated or both. If such errors are large and persistent, they indicate serious weakness in recording of transactions. Thus, on account of double entry book keeping system, the balance of payments will always balance. Any negative balance in the current account is made corrected by a surplus balance on the capital account and vice versa. Therefore, balance of payment always balances from the accounting point of view.

DISEQUILIBRIUM IN THE BALANCE OF PAYMENTS:

Equilibrium or disequilibrium in the balance of payments refer to the balance on those heads of the account which do not include the drawings from the IMF, use of special drawing rights,

drawings from the reserves of foreign currencies held by the Central government etc. Excluding these items, if there is neither deficit nor surplus in the balance of payments, it is known to be in equilibrium. Otherwise, it will be in disequilibrium. The deficit in the balance of payment can be financed by drawings from the IMF, use of Special Drawing Rights and drawings from the reserves of foreign currencies. In 1999-2000, the deficit on the current account was financed by the surplus on the capital account of India's balance of payment. Nonetheless, India's balance of payment remains unfavorable and in disequilibrium because of a deficit on the current account. It thus means that when there is neither surplus nor deficit on the current account, the balance of payment is said to be in equilibrium. A more important concept of balance of payment is the concept of basic balance. It is based on autonomous items in the balance of payment. Autonomous items are those items which cannot be easily changed or influenced by the government because they are determined by long term factors. Autonomous transactions take place on their own because of people's desire to consume more or to make higher profits. For instance, both export and import of goods and services which are items on the current account are undertaken to make profit or consume more goods and services. Exports and imports take place irrespective of other transactions included in the balance of payment accounts. It is for this reason they are called autonomous transactions. Autonomous transaction also includes long term capital movements both on private and government account contained in the capital account. If exports are equal to imports, there will be no other transaction but if they are not equal, it will lead to short term capital movements in the form of international borrowing and lending. These capital movements are undertaken for bridging the deficit in the balance of trade. Since the short-term capital flows are accommodating or compensatory in nature, they are called induced transactions. Induced transactions include borrowing from the International Monetary Fund or Central Banks of other countries, drawings from Special Drawing Rights account. Induced transactions are excluded from the concept of basic balance. Thus, when autonomous transactions are equal and there is no need for induced transactions, the balance of payment is in equilibrium. This equilibrium in the balance of payment is a state of balance which can be sustained without government intervention. The concept of basic balance therefore can be stated as:

$$(X - M) + LTC = 0$$

Where, X stands for exports.
M stands for imports, and
LTC stands for long term capital movements.

If exports are greater than imports (X > M), long term capital movement will be negative and equal to net exports (X_n) which means there will be net capital outflow. Similarly, if exports are less than imports (X < M), long term capital movement will be positive and equal to net imports (M_n) which means there will be an inflow of capital to bridge the deficit in the current account.

7.3 TYPES OF DISEQUILIBRIUM IN THE BALANCE OF PAYMENTS

The balance of payment is unfavorable when a country's autonomous payments are greater than its autonomous receipts. Autonomous payments arise out of import of goods and services and export of capital, whereas autonomous receipts result from the export of goods and services and import of capital. Thus, the balance of payment is unfavorable when total imports are greater than total exports. However, imports and exports are determined by several factors. Imports of a country depend upon domestic demand for foreign goods, the prices of imports and the prices of their domestic substitutes and people's preference for foreign goods. Exports of a country depend upon foreign demand for its goods and services, price competitiveness and quality and exportable surplus. As all economies operate under dynamic conditions, factors which determine imports and exports keep changing and the changes differ in their duration and intensity from time to time and form country to country. The changes which occur because of disturbances in the domestic economy and other economies create conditions of disequilibrium in the balance of payment. There are different reasons for different disequilibria and these are given below.

1. Cyclical Disequilibrium:

Business cycles or fluctuations in the economic activities of trading nations are the cause of cyclical disequilibrium in the balance of payments. These fluctuations occur in prices, production, employment and incomes which causes periodic fluctuations in international trade. During the prosperity phase of the business cycle, prices of goods rise and incomes fall which affects international trade and balance of payments. A country with elastic demand during the prosperity phase will experience fall in imports. Conversely, if the demand is inelastic, demand for imports will rise during prosperity. Further, during depression, when prices decline and incomes rise, countries with elastic demand for imports will experience rise in imports and those with inelastic demand will experience a fall in imports. A country in the prosperity phase will thus experience a surplus and that of a country in depression will experience deficit.

2. Structural Disequilibrium:

Structural disequilibrium occurs due to structural changes taking place in certain sectors of the economies of the trading countries. Structural changes may change the demand and supply of imports and exports. For example, because of a fall in the foreign demand for Indian garments, garment production will fall in India. If there is a freedom of exit, the resources employed in garment industry can be redirected to other profitable avenues. In the absence of freedom of exit, exports will fall and if there is no matching fall in the imports, there will be disequilibrium in the balance of payments. Export demand remaining constant there may be fall in the exportable surplus or supply of exports because of industrial frictions or some other extraneous factors resulting in structural disequilibrium in the balance of payments.

Increase in the marginal propensity to import because of increasing domestic incomes will have a twofold adverse effect on the balance of payments. First the import demand will rise and second the demand for domestic goods will also increase leading to a fall in the exportable surplus. According to Ragner Nurkse, international demonstration effect can lead to structural disequilibrium in balance of payments. Because of growing contact of the developing countries with the advanced countries, developing countries try to imitate the consumption pattern of the advanced countries. Thus, the demand for imports rises without a matching rise in exports. This also results in a change in the production pattern of poor countries resources are diverted to manufacture import substitutes of consumer goods by adopting sophisticated production methods and imported technology. Capital imports compounds the problem of foreign exchange outflow creating structural disequilibrium.

3. Short Run Disequilibrium:

Short run disequilibrium in the balance of payments refers to temporary deficit or surplus lasting for a short period. It is caused by unexpected contingencies such as favorable or unfavorable monsoons, industrial peace or disharmony, short term borrowing and lending in the internal market. For instance, failure of monsoons in a rain fed agricultural country like India would necessitate large scale import of food grains leading to unfavorable balance of trade. However, the situation may be corrected in the subsequent year if the monsoon is normal. Hence, the disequilibrium is temporary for that period. A temporary disequilibrium may also be caused because of bumper agricultural crop leading to higher exports and a surplus on the merchandise account. Similarly, wide-spread industrial disharmony in a country which is involved in the exports of manufactured goods would experience a decline in the exportable surplus and thus face a deficit in the balance of payments. In the same manner, short term

borrowing or lending in the international market may cause a short period disequilibrium in the capital account. However, short period deficits and surpluses are subject to automatic correction because of the operation of market forces and the international payment mechanism.

4. Long Run Disequilibrium:

Long run disequilibrium in the balance of payments is also known as secular or fundamental disequilibrium. It refers to persistent deficit or surplus in the balance of payment of a country. If there is a persistent deficit, it would lead to progressive depletion of the stock of gold and foreign exchange reserves of the country leading to exchange instability and foreign exchange crisis. For example, the foreign exchange crisis of 1991 in India was a case of long run or fundamental disequilibrium in the balance of payments. The International Monetary Fund has used the term 'fundamental disequilibrium' to describe a long run disequilibrium caused by persistent deficit in the balance of payment of a country. Fundamental or secular disequilibrium is caused by unchecked persistent short run disequilibrium in the balance of payments. The causes of fundamental disequilibrium are deep seated in the economy. Some of the causes are persistent rise in population, low rate of capital formation, technological changes, instability in the export prices of primary goods and import restrictions by advanced countries. The IMF expects a member country facing secular disequilibrium to consult the Fund so that it can advise or assist in taking appropriate measures to correct the situation. It is important to correct fundamental disequilibrium immediately to ensure one's survival in the international economy.

7.4 CAUSES OF DISEQUILIBRIUM

Short run or long run disequilibrium in the balance of payments of a country is caused by numerous factors which may operate simultaneously or singularly. Different countries may experience different types of disequilibrium with different contributing factors at different points of time. The generalized causes of disequilibrium in the balance of payment can be explained as follows:

1. Business Cycles

Business cycles are an important cause of cyclical disequilibrium in the balance of payments of a country. Difference in timing and occurrence of trade cycles in the trading countries also causes cyclical disequilibrium. Further, the intensity of prosperity and depression in different countries can cause cyclical disequilibrium. Difference in income and price elasticity of demand for imports in different countries is yet another cause of cyclical

disequilibrium. For instance, if the prosperity phase of a country like United Kingdom is more intense than that of United States, then United Kingdom will have a deficit in the balance of payment and United States will enjoy a surplus. This is because of the fact that the demand for imports in United Kingdom will be relatively greater than the demand for imports in United States.

2. Large Developmental Expenditures:

In case of developing countries, the main cause of disequilibrium in the balance of payments is their persistently growing developmental and investment expenditures and these countries continually depend upon the advanced countries for their capital imports and the dependence seems to be inherently continuous on account of the developmental gap between the advanced countries and the developing countries. The result of this developmental gap is unfavorable terms of trade which causes persistent current account deficits in the balance of payment of developing countries. Further the developing countries are largely agricultural economies involved in the process of industrialization. Progressive industrialization contributes to increasing demand for primary products resulting in their price rise and reduced exportable surplus. Unfavorable terms of trade on account of primary goods exports and reduced exports surplus on account of growing domestic demand for primary products compounds the problem of deficit resulting in structural disequilibrium and sometimes fundamental disequilibrium in the long run.

3. Changing Demand for Exports:

Economic self sufficiency appears to be an important aim of every country developing and advanced. The developed or the advanced countries aim to be self sufficient in primary products, particularly the food articles and as a result their demand for imports of primary goods gets reduced over time. This results in a fall in the exports of developing countries and adversely affecting their balance of payments. Similarly, the developing countries also try to be economically self sufficient in terms of their capital requirements, thus reducing their capital imports. However, on account of the developmental gap and technological backwardness along with unfavorable terms of trade, the developing countries have regular net negative exports and therefore a persistent disequilibrium in their balance of payments.

4. High Growth Rate of Population:

The rate of growth of population in high income countries is 0.6 per cent per annum whereas in the case of low income developing countries, it is as high as two per cent per annum (see page 279 of WDR 2000-2001). A high population growth not only demands higher imports but also contributes to a persistent rise in

the demand for primary products resulting in secular disequilibrium in the balance of payments.

5. Heavy External Borrowings:

A country with a persistent and sometimes rising deficit on the current account without adequate inflow of foreign exchange on the capital account may have to take recourse to external assistance and commercial borrowings. Heavy external borrowing, particularly external commercial borrowing necessitates debt servicing in the form of principal and interest payments. Deficit in the balance of payment would continue as long as the country borrows more than what it lends to other countries.

6. Inflation:

Inflation is a chronic problem in developing countries and India is a classic example of an inflation infected country. Inflation assumes significance in the context of balance of payments when the domestic inflation rate is much higher than what is prevalent amongst your trading partners. In such a situation, import demand will be higher along with higher demand for domestically produced goods and services. This will reduce the exportable surplus and lead to a deficit in the balance of payment. Further, on account of higher domestic prices, the demand for exports will fall necessitating a depreciation or devaluation of the home currency. Devaluation of the home currency will help exports to rise and imports to fall. However, imports will fall only if they are price elastic. In case of developing countries, import demand being relatively inelastic, the deficit in the balance of payment continues after a brief reprieve.

7. International Demonstration Effect:

According to Ragner Nurkse, increasing interaction between the developing and the advanced countries results in an international demonstration effect. International demonstration effect refers to the phenomenon of imitation by the developing countries of the conspicuous consumption pattern of the advanced countries. The developing countries have a high marginal propensity to consume. On account of the international demonstration effect, higher MPLC translates into higher imports without matching exports. The developing countries also try to replicate the production pattern of advanced countries by importing sophisticated capital goods and know-how. Thus, international demonstration effect not only leads to higher import of consumer goods but also capital goods all contributing to deficit in the balance of payments.

8. Flight of Capital:

Countries with full convertibility both on current account as well as capital account are particularly exposed to the danger of

capital flight in the event of a currency crisis. The Mexican currency crisis of 1994-95 and the east-Asian crisis of 1997 are two examples of capital flight. Countries with huge exposure to foreign capital flows in the form of portfolio investment and short term capital borrowing are highly susceptible to speculative attack on their home currencies leading to foreign exchange crisis. For instance, net inflow into Mexico in 1993 was $60 billion and during the Mexican crisis of 1995, net outflow reached $75 billion. A speculative attack on a currency takes place when foreign and domestic depositors suddenly shift their funds out of domestic banks into foreign currency. These attacks take place because investors receive information that affects the attractiveness of keeping money in a country whose economic characteristics appears to be doubtful.

9. Imposition of Non-tariff Barriers:

Non-tariff barriers in the form of quantitative restrictions or import quotas, countervailing duties in the name of social clause, ban on certain items of import in the name of child labor content are imposed by the advanced countries on developing countries which adversely affect their export performance. Under the multi-fibre agreement, comprehensive quota restrictions on import of clothing and textiles into the advanced countries were imposed. Similarly, the social clause which was moved by the United States to be incorporated in the Marrakesh Declaration in 1994 proposed to levy a countervailing duty on imports from developing countries in order to offset the low labor costs prevailing in these countries. The comparative cost advantage enjoyed by the developing countries on account of low labor cost was sought to be neutralized under the guise of a humanitarian concern that the developing countries adopt proper standards of living for the workers and pay better wages. The 'social clause' was withdrawn on account of strong opposition from the developing countries. Non-tariff barriers in the form of quotas, countervailing duties, child labor content etc adversely affect the exports of developing countries and thereby their balance of payments.

10. Globalization of the World Economy:

Globalization refers to the process of economic integration of the member countries of the World Trade Organization. In the year 1999, one hundred and thirty four countries were members of the WTO. Globalization is sought to be achieved through reduction of trade barriers, free flow of capital between the member nations and free flow of technology. Since the terms and conditions of the world trade under aegis of WTO is set by the powerful countries of Europe and the Americas, the developing countries are found to be at disadvantage in the globalizing world economy. The imposition of non-tariff barriers on the exports from developing countries discussed earlier, have been adversely affecting the balance of

payments of these countries. In the emerging global village, the developing countries have very little bargaining power to bring about a level playing field in world trade. With inelastic capital imports and elastic exports and with the free flow of finance capital, the developing countries are found to be more vulnerable in the context of their balance of payments position.

7.5 MEASURES TO CORRECT DISEQUILIBRIUM

A fundamental disequilibrium in the balance of payments of a country needs timely correction. If the balance of payment of a country shows persistent and growing deficit, the country must initiate measures to improve its foreign exchange resources. The foreign exchange reserves can be improved by import reduction and by increasing exports. Both would require adjustment through exchange rates and trade controls. The adjustment mechanism used to correct disequilibrium in the balance of payments consists of monetary and non-monetary measures. Deflation, exchange depreciation, devaluation and exchange control are the monetary measures whereas import duties, import quotas or quantitative restrictions and export promotion drives are the non-monetary measures. Effective implementation of monetary measures helps to increase exports and reduce imports. They function though the price mechanism and hence they influence indirectly. Non-monetary measures are direct in their impact. For instance, import duties and quantitative restrictions in the form of quotas directly reduce imports and export promotion measures directly increase exports.

(A) Monetary Measures to Correct Disequilibrium in the Balance of Payments.

1. Deflation

Deflation is a deliberate attempt by the monetary authorities of the country to bring down the general price level. The general price level is brought down by reducing money supply with the help of both quantitative and qualitative measures of credit control. A country with a deficit in the balance of payment will increase the bank rate which will be followed by higher interest rates charged by the commercial banks. As a result, investment demand will fall resulting in the fall in employment income. Lower income will lead to reduced demand for domestic goods and service and fall in their prices. Lower prices would help increase the demand for exports and decrease the demand for imports. Further, lower domestic demand will increase the exportable surplus and lower domestic incomes will reduce the propensity to import, thus correcting the deficit in the balance of payment. However, deflation as a monetary measure to correct disequilibrium is not free from limitations. It will

be successful only in the case of a regime of fixed exchange rates. For instance, under a flexible exchange rate system, the country which tries to boost exports by deflationary measures may have to face an appreciation in the external value of its currency vis-à-vis the foreign currency. Thus gains made by reduced prices may be offset by an appreciation in the exchange rates thus nullifying the whole exercise. Further, the effective impact of a deflationary policy depends upon the elasticity of imports and exports. If the elasticity of demand for imports and exports are greater than unit, a mild deflation will be sufficient. In case, the elasticity of demand for exports and imports is less than unity, a strong dose of deflation would be required. However, a deflationary spiral will adversely affect domestic employment, output and incomes. Thus a deflationary policy to correct disequilibrium won't be la correct prescription because such a policy would be paradoxical to development requirements of developing economies.

2. Exchange Depreciation

Exchange depreciation is said to have taken place when there is a fall in the external value of the currency of a country. However, exchange rate depreciation being de-facto and as a result of market mechanism, is possible only under a regime of flexible exchange rates. For instance, let us assume that the US Dollar is exchanged for Rs.40. If the Indian demand for American exports rose more proportionately than the American demand for Indian exports, there will be a negative trade balance in India's balance of payments reflecting a higher demand for US dollars. Higher demand for US dollars will result in the appreciation of the dollar and depreciation of the rupee and the new exchange rate let us assume will be Rs.45 to a US dollar. The depreciation of the Indian rupee will help increase the demand for Indian exports because Indian exports have become cheaper. Similarly, an opposite effect takes place on the demand for imports which have now become dearer. The demand for imports or US exports falls and the deficit in the balance of payments is reduced.

Exchange rate depreciation is also not free without its limitations. Exchange rate depreciation will be successful in reducing and correcting the disequilibrium in the balance of payments only if the demand for imports and exports is relatively elastic and if it is relatively inelastic, a bigger depreciation will be required to bring about a fall in imports and a rise in exports. Further, if your trading partner in our example, i.e., the US allows its currency to depreciate as a retaliatory measure, the entire Indian effort to depreciate its currency will be in vain. Yet another adverse impact on the depreciating country will be unfavorable terms of trade. If the import content in exportable goods is high, the price of exports will rise thus nullifying the depreciation exercise. Finally, exchange depreciation may result in an inflationary spiral on

account of rise in domestic price level and increase in nominal incomes.

3. Devaluation

Devaluation of the home currency is an alternative to depreciation. It is a generally adopted method by countries facing a deficit in the balance of payments. Devaluation is an official recognition of the fall in the external value of the home currency. While depreciation is de-facto, devaluation is de-jure. The International Monetary Fund allows devaluation only when the country is trapped in a fundamental disequilibrium. The impact of devaluation will be the same as that of depreciation i.e. the exports will become cheaper and the imports dearer, thus bringing about a correction in the balance of payment. However, devaluation as a measure to correct persistent deficit in the balance of payment will be successful only under certain conditions. Firstly, the elasticity of demand for exports and imports should be greater than unity. Otherwise, devaluation will further worsen the deficit in the balance of payments. Secondly, if the country exercising devaluation exports non-traditional items with a large international demand, it will gain on account of improved terms of trade. However, if the export consists of primary goods and the imports that of manufactured goods, then the terms of trade will become unfavorable, thereby worsening the balance of payment situation. Thirdly, after devaluation, the country should be able to maintain domestic price stability. If devaluation leads to domestic price rise, the purpose of devaluation will be defecated. However, the domestic cost price structure of a country may change if the domestic output of import substitutes is not increased resulting into the price rise. Further, if the reduction of exportable goods is not increased and if the rise in demand for exports is met by reducing the supply in the domestic market, prices will rise in the domestic market and make exports less profitable. Fourthly, if the import content of the exportable goods is high and if the country is capital deficit and certain to import capital goods at a higher price, cost of production will go up making imports less attractive to foreign countries. Further, if the price rise in certain category of goods has chain effect leading to a rise in the general price level, organized labor will demand compensation in the form of dearness allowance and there will be cost push inflation in the country. However, if devaluation is combined with deflationary measures in the domestic economy, domestic price stability can be maintained with a certain degree of success. Fifthly, devaluation by a country, facing deficit in the balance of payments should not be countered by competitive devaluation by foreign countries or foreign countries should not off-set the impact of devaluation by imposing tariff and non-tariff barriers. Finally, devaluation will be effective only if export promotion and import discouraging measures are simultaneously implemented. However, devaluation has its negative side. It is a

sign of the economic weakness of a country and has the potential to induce price rise in the domestic economy. Further, it leads to a rise in cot of debt servicing and if the macro-economic management of the country is not sound and the country may have to take recourse to devaluation from time to time as in the case of India.

4. Exchange Control

Exchange control refers to restrictions imposed by the Central bank of a country on the use of foreign exchange to correct the disequilibrium in the balance of payments. When an exchange control is adopted, the Central bank collects all the foreign exchange earnings and releases foreign exchange only for unavoidable and essential imports. Exchange control as a monetary measure is superior to deflation, depreciation and devaluation because it directly controls the demand and supply for foreign exchange. The exporters are required to surrender all their foreign exchange earnings to the Central bank and the imports have to obtain permission for import of goods. The foreign exchange resources with the Central bank are distributed amongst imports according to the quotas fixed. Exchange control is therefore a very effective method of correcting deficit in the balance of payment of a country. However, exchange control is not a permanent solution to long run disequilibrium because it only suppresses demand for imports and does not cure the causes of deficit.

(B) Non-Monetary Measures of Correcting Disequilibrium in the Balance of Payments

A judicious mix of monetary and non-monetary measures needs to be simultaneously implemented in order to correct disequilibrium in the balance of payments. Both surplus and deficit in the balance of payments call for correction. In the case of a persistent surplus, the measures adopted to correct a deficit will have to be turned on their heads or reversed. For instance, a country with a favorable balance of payments will face an appreciation in the external value of its currency. In that case, the Central bank will have to encourage imports and discourage exports by pursuing cheap money policy and revaluation of the currency.

Non-monetary measures help in correcting disequilibrium in the balance of payments without changing the exchange rates. In case of a deficit in the balance of payments, the non-monetary measures aim at promoting exports and discouraging imports. The following non-monetary measures can be used to correct deficit in the balance of payment.

1. Export Promotion Measures

Export promotion helps to improve the foreign exchange reserves of a country and thus corrects the deficit. The government may implement export promotion measure such as export subsidies, tax concessions to exporters, marketing facilities, export incentives, loans to exporters on a priority basis , setting up of export zones land 100% export oriented units, organization of trade fairs in foreign countries etc. Exportable surplus should be created of those goods which have a high demand in the foreign countries by expanding production capacities and by discouraging domestic consumption of such goods.

2. Import Control Measures

Import duties, import quotas and import substitution are the three important measures of import control. These measures are complementary to export promotion measures to correct the deficit in the balance of payments. Import duty is a fiscal instrument used to control imports. They result in increase in the price of imported goods leading to a fall in import demand and reduction in the deficit. Import quota is a direct method of correcting disequilibrium in the balance of payments. Import quotas have the immediate impact in limiting imports as the marginal propensity to import becomes zero as the quota limit is reached. Import quota is a quantitative measure of import restriction and hence they are highly effective than import duties. The third measure to control imports is through import substitution. Import substitution requires setting up of industries which can produce import substitutes inside the country. However, import substitution industries needs to be set up with indigenous capital and technology and the goods so produced must be comparable in quality.

Conclusion.

Both monetary and non-monetary measures used to correct disequilibrium in the balance of payments are known to be an adjustment mechanism. Adjustment through changes in exchange rates relates to exchange rate depreciation and devaluation. Adjustment through changes in income and price relates to deflation and adjustment through controls relates to exchange controls and trade controls. Exchange controls refer to rationing of foreign exchange and trade controls involve export promotion and import control measures.

The non-monetary measures are considered more effective in correcting a deficit in the balance of payments. Import duties, quantitative restrictions in the form of import quotas and import promotion measures are found to be more effective in correcting a deficit.

7.6 SOURCES OF DATA

1. **www.rbi.org.in (RBI bulletins and Reports).**
2. **Indian Economic Survey various years**
   http://indiabudget.nic.in
3. **http://finmin.nic.in**

7.7 QUESTIONS

1. Explain the concept and usefulness of the study of Balance of Payments.
2. Explain the structure of balance of payments.
3. The balance of payments always balances. Explain.
4. Explain the types of disequilibrium in the balance of payments.
5. Explain the causes of disequilibrium in the balance of payments.
6. Explain the monetary measures used to correct disequilibrium in the balance of payments.
7. Explain the non-monetary measures used to correct disequilibrium in the balance of payments.

Unit - 8

EXCHANGE RATE DETERMINATION PREVIEW

Unit Structure :

8.0 OBJECTIVES

- To understand the concept of Foreign Exchange Market
- To study the determination of exchange rate
- To study the merits and demerits of Flexible Exchange rate System
- To understand the concept of Fixed Exchange rate system
- To study the merits and demerits of Fixed Exchange Rate system
- To understand the concepts of Managed Exchange rate and Exchange Rate Management
- To study the significance of Foreign exchange reserves
- To understand the concept of Foreign exchange and its components

8.1 THE FOREIGN EXCHANGE MARKET

The foreign exchange market is the international market in which foreign currencies are bought and sold. It is an arrangement for buying and selling of foreign currencies in which exporters sell the foreign currencies and importers buy them. **The players in the**

foreign exchange market are exports and importers, travelers land investors, traders, speculators and brokers and commercial banks and central banks of different countries of the world. The US Dollar was exchanged for 47.05 Indian rupees on 02nd June 2006. The rupee – dollar exchange rate was therefore Rs.47.05 for one US Dollar or One Indian rupee would fetch **0.02 US Dollars**. On 31st May 2019, the INR-USD exchange rate was Rs. 69.68 for one USD or one INR would fetch 0.014 USD. The Rupee – Pound Sterling exchange rate on 02nd June 2006 was Rs.87.90 which means the Pound Sterling – Rupee exchange rate would be UK Pound Sterling **0.01** for one Indian rupee. On 31st May 2019, the Rupee-Pound Sterling exchange rate was Rs. 87.66 which means that the Indian Rupee had marginally appreciated against the UK Pound Sterling. In the foreign exchange market, there are two different rates for buying and selling of foreign currencies. These differences arise due to transaction cost in dealing with foreign currencies.

Broadly there are two systems of exchange rate determination. **They are known as fixed and flexible or floating exchange rate systems.** Under the fixed exchange rate system, the foreign exchange rate is fixed by the government. The fixed exchange rate was established in the year **1944 under an agreement reached at Bretton Woods in New Hampshire, USA.** Under this system, at the fixed exchange rate if there is disequilibrium in the balance of payments giving rise to either excess demand or supply of foreign exchange, the Central Bank of the country has to buy and sell the required quantities of foreign exchange to eliminate the excess demand or supply. **The system of exchange rate in which the exchange value of a currency is determined by the market forces of demand and supply of foreign exchange is known as flexible or floating exchange rate system.** The flexible exchange rate system came into existence after the fall of the fixed exchange rate system in **1977**. The changes in the exchange value of a currency in the foreign exchange market are known by the terms **appreciation and depreciation.** For instance, if the rupee – dollar exchange rates become Rs.48.05 in a few days hence, the rupee would be said to have depreciated against the dollar. Conversely, if the rupee – dollar exchange rates become Rs.46.05 then the rupee would be said to have appreciated against the dollar. The changes in the exchange rate are determined by the market forces in a flexible exchange rate system. In the case of fixed exchange rate system, the central bank has to buy or sell foreign exchange so that the exchange rate is maintained at the pegged or fixed level. **However, the fixed exchange rate could be changed through devaluation or revaluation only with permission from the IMF in case of fundamental disequilibrium in the balance of payments.** Thus, if a country was running large and persistent

deficit in her balance of payments, it was allowed to devalue its currency in order to improve the balance of payment position. **Conversely, if a country was running large and persistent surpluses in the balance of payments, it was allowed to revalue its currency so that correction is made.** The IMF maintains funds which are contributed by member countries and gives loans to member countries from its reserves when they face temporary deficit in the balance of payments. If a member country has a persistent deficit in the balance of payment, the IMF would permit such a country to devalue its currency in order to correct the deficit so that a relatively stable or fixed exchange rate system was maintained for the promotion of world trade. **In order to maintain the exchange rate at a given level, the central banks of different countries were required to maintain reserves of foreign currencies.** The international reserve currencies are the US dollar, UK Pound Sterling, German Deutsche marks and the Japanese Yen.

8.2 FREE MARKET EXCHANGE RATE DETERMINATION

The free market exchange rate of a currency is determined by the market forces of demand for and supply of foreign exchange. If there are two countries, India and the USA, the exchange rate of their currencies (rupee and dollar) will be determined by American demand for Indian exports and Indian demand for American exports. Indian demand for American exports means Indian demand for US dollars. Similarly, American demand for Indian exports means American demand for Indian rupees.

Demand for Foreign Exchange (US Dollars) : The demand for US dollars in India is a function of the demand for US goods and services by Indian firms and individuals. There is a direct relationship between demand for US exports from India and the demand for US dollars. The demand for dollars may also arise due to Indian citizens and firms wanting to purchase assets in the United States give loans or send gifts to friends in the United States. The demand for dollars can be realized by exchanging rupees for dollars with the central bank. The demand curve for US dollars will be downward sloping as the demand for US dollars will be inversely proportionate to the rupee dollar exchange rate. Higher the exchange rate, lower will be demand for US dollars and vice versa. The demand for US dollars is shown by the demand curve DD in Fig.16.1 below.

Supply of Foreign Exchange (US Dollars) : The supply of US dollars results from the demand for Indian exports from USA. The supply of US dollars will be directly proportional to the supply of

exports from India to the United States. The supply of US dollars may also arise from the demand for US citizens and firms to purchase assets in India or to give loans and gifts to people in India. The supply of US dollar is derived from the demand for Indian rupees or the demand for Indian exports. The supply curve of dollars in terms of rupees is positively sloping as shown in Fig.16.1 below. Higher the rupee dollar exchange rate, higher will be the supply of US dollars and vice versa.

The Equilibrium Exchange Rate (Re/$) : The equilibrium exchange rate will be determined by the intersection of demand for and supply curve of dollars. Such an equilibrium point in Fig.8.1 is point 'E' and the equilibrium exchange rate is OR with OQ quantity of demand and supply of US dollars. At a higher price of dollars i.e. OR_1 the quantity supplied of dollars is greater than the quantity demanded by 'ab'. Excess supply of dollars will push the prices down back to the equilibrium level. Similarly, if the exchange rate is OR_2, there will be excess demand for US dollars and demand for dollars will exceed its supply by 'cd' causing the exchange rate to go up and stabilize at the equilibrium exchange rate OR.

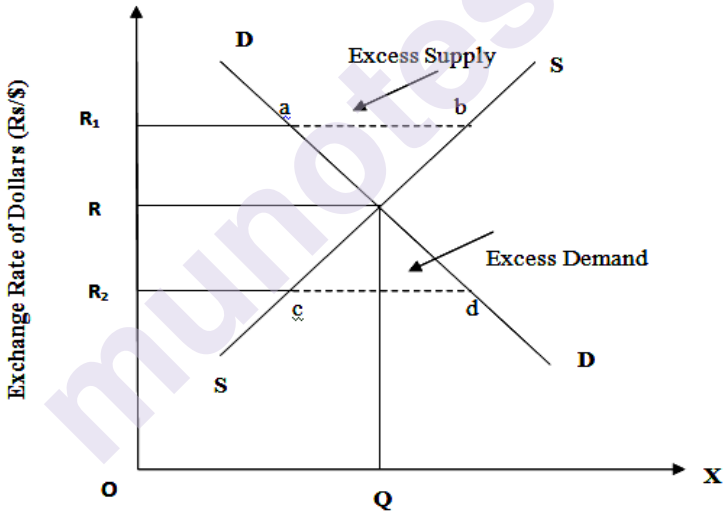


Fig.8.1: Equilibrium Exchange Rate

Appreciation and Depreciation in the Exchange Rate : The changes in the exchange rate are caused by changes in the factors that determine the demand for and supply of foreign exchange. For example, an increase in US national income will cause an increase in the demand for Indian exports which will lead to an increase in the supply of dollars in the foreign exchange market. The supply curve will shift thus to the right as S_1S_1 as shown in Fig. 8.2 below. The increase in the supply of dollars because of an increase in the demand for Indian exports will lower the exchange rate of dollars in terms of rupees from OR to OR_1. Thus, the dollar will depreciate and to that extent the rupee will appreciate. The new equilibrium

exchange rate will be determined by point E_1. The depreciation of dollar by RR_1 is caused by the excess supply of dollars equal to EF.

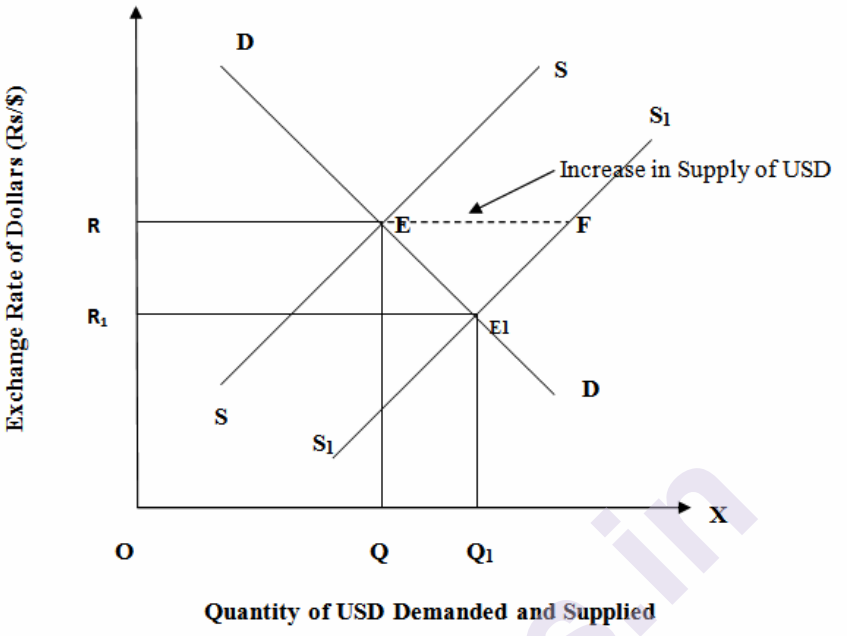


Fig.8.2: Appreciation of Exchange Rate

Further, an increase in the national income of India may cause an increase in the demand for US exports to India. Such an increase will lead to increase in demand for dollars. The increase in demand for dollars is shown by a rightward shift of the demand curve in Fig.8.3. Because excess demand for dollars over supply at the equilibrium exchange rate OR, the dollar price rises or appreciates and the new equilibrium exchange rate OR_1 is determined.

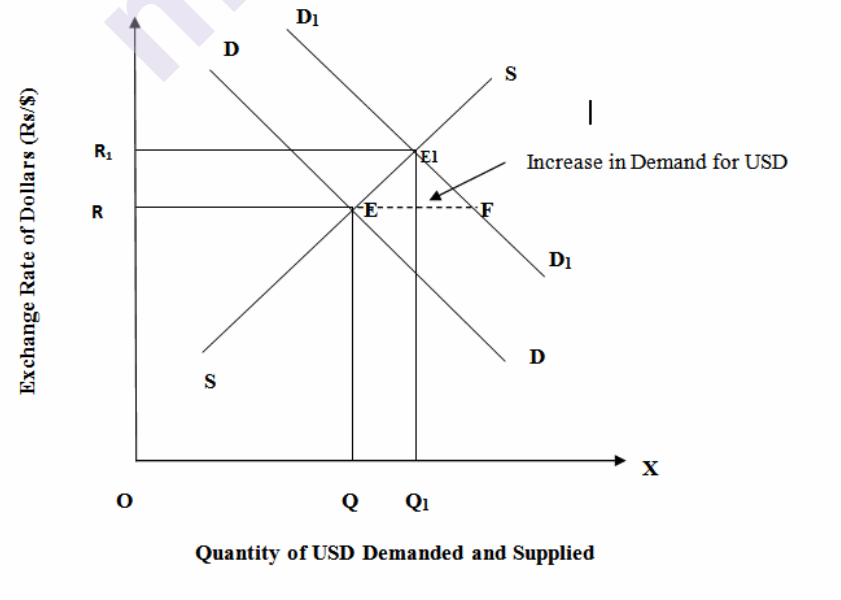


Fig.8.3: Depreciation of Exchange Rate

8.3 MERITS OF FLEXIBLE OR FREE MARKET EXCHANGE RATE SYSTEM

1. **Absence of Under and Over-valuation.** Fixed exchange rate system has the drawback of under and over valuation which is not the case under flexible exchange rate system. Whenever there is a deficit in the balance of payment under flexible exchange rate system, the currency will depreciate. As a result, exports will increase and imports will decrease and the deficit will be corrected automatically.

2. **Expansion of Multilateral Trade.** Flexible exchange rates help in the expansion of multilateral trade because it maintains the exchange rates at their market determined levels through continuous market adjustments.

3. **Exchange Rate Fluctuations Takes Place in a Narrow Band.** Changes in exchange rate occur only when economic conditions underlying demand for and supply of foreign currencies change. Random fluctuations around the normal exchange rates would be smoothened out through operations by private speculators. According to Bo Soderston, "if the currency appreciated above its equilibrium value, if its price fell in terms of foreign currency, speculators would buy the currency and it depreciated, speculators would sell the currency. Thereby they would smooth out fluctuations land help to keep the exchange rate stable, if the underlying conditions changed, however the price of foreign exchange would also change."

4. **It is Consistent with the Policy of Laissez-faire.** Flexible exchange rate system is a market determined system and therefore based on Adam Smith's philosophy of laissez-faire. Under the fixed exchange rate system, the rates are fixed out of consideration of non-economic objectives such as retention of market structure or influencing income distribution.

5. **Automatic Adjustments in Balance of Payments.** Flexible exchange rates automatically restore balance of payment equilibrium by appreciation and depreciation of currencies. The Government is therefore free from the problems of adjustment.

Demerits of flexible or free market exchange rates

1. **Problems of Instability and Uncertainty.** Flexible exchange rates create the problem of uncertainty and instability in foreign exchange transactions. Instability hampers foreign trade and capital movements between the countries.

2. **Adverse Impact on Foreign Trade.** Due to uncertainty, decisions regarding exports and imports cannot be taken

properly and hence it affects the volume and growth of foreign trade.

3. **Encourages Speculative Activity.** Speculative activity has a destabilizing effect on exchange rates and large scale speculative activity may divert resources from the real sector to the monetary sector of the economy.

4. **Inflationary Impact on a Deficit Country.** Deficit in the balance of payments of a country would bring about a depreciation of the currency. As a result import prices will rise and prices of industrial products would also rise. Deficit countries may have to face the problem of cost-push inflation.

8.4 FIXED EXCHANGE RATE SYSTEM

The exchange rate which is fixed by the government is known as fixed exchange rate system. This system came into existence in July 1944 under an agreement arrived at a small town in New Hampshire called Bretton Woods. The economists who designed the fixed exchange rate system were Harry White from the United States and JM Keynes from the United Kingdom. This system is also known as the dollar standard because all other countries agreed to fix their exchange rates against the dollar. According to the agreement, the International Monetary Fund was established to administer the fixed exchange rate system. The United States was required to fix a par value for dollars in terms of gold. As the US dollar was linked with gold other national currencies with fixed exchange rate were fixed or pegged with a certain gold value. The US government was committed to maintain the convertibility between gold and dollars at fixed rates and other countries agreed to maintain the convertibility of their currencies with the US dollar. The United States fixed the convertible rate at $ 35 per ounce of gold. The fixed exchange rate could be changed through devaluation or revaluation only with permission from the IMF in case of fundamental disequilibrium in the balance of payments. Thus if a country was running large and continuous deficit, it was allowed to devalue its currency in order to improve the balance of payment position. The IMF maintains funds which were contributed by member countries and gives loans to member countries from its reserves when they face temporary deficit in the balance of payments. If a member country has a persistent deficit in the balance of payment, the IMF would permit such a country to devalue its currency in order to correct the deficit so that a relatively stable or fixed exchange rate system was maintained for the promotion of world trade. For instance, the Government of India devalued the Indian rupee by 36.5 per cent in 1966 and by 20 per cent in 1991. In both these years, India faced serious balance of

payment problems. In order to maintain the exchange rate at a given level, the Central Banks of different countries were required to maintain reserves of foreign currencies. The international reserve currencies are the US dollar, UK pound sterling, German Deutsche marks and the Japanese Yen.

Fixed exchange rate systems are maintained with the help of the central banks i.e. the central bank of a country has to buy and sell foreign exchange so that the fixed rate of exchange is maintained and fluctuations caused by market conditions are neutralized. The role of the central bank in maintaining fixed exchanges is shown in Fig.16.4 below. Let us assume that the government of India is committed to maintain the exchange rate of its currency at OR. Now suppose the American demand for Indian goods declines sharply. Such a decline in demand will reduce the supply of US dollars and the supply curve will shift towards the left and the new supply curve will be S_1S_1. The demand curve DD for dollars remaining constant at the fixed exchange rate OR, the quantity supplied of dollars falls to RM and ME is therefore the excess demand for dollars. If the central bank does not intervene the equilibrium exchange rate will be determined at OR_1. The US dollar will appreciate in terms of rupees and in order prevent the dollar from appreciating or the rupee from depreciating from the original exchange rate OR, the Reserve bank will have to sell dollars from its reserves by the amount ME and restore the demand supply equilibrium.

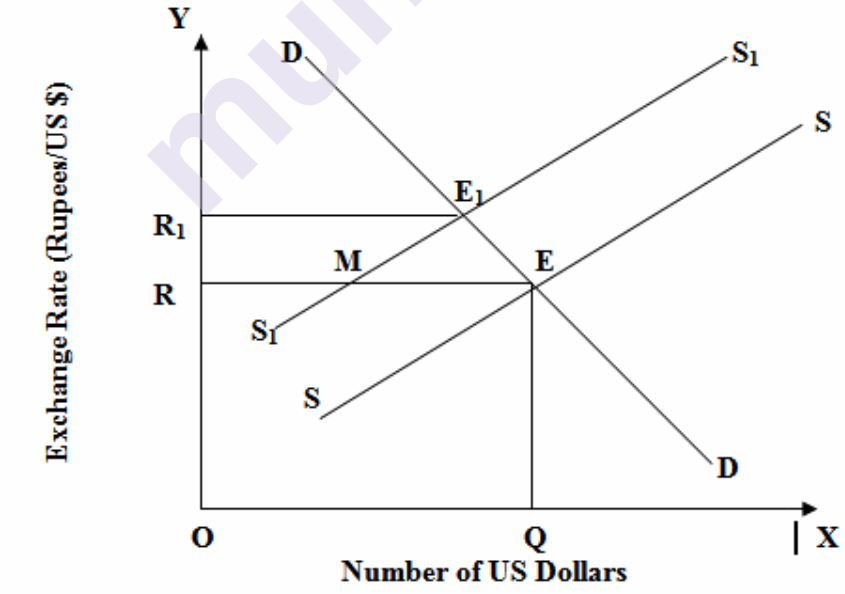


Fig. 8.4: Central Bank's Intervention to maintain Fixed Exchange Rate.

8.5 MERITS OF THE FIXED EXCHANGE RATE SYSTEM

1. **Exchange Rate Stability.** Short term fluctuations in the demand for and supply of foreign exchange can be effectively managed with the intervention of the central banks in countries having fixed exchange rate system and thus imparting stability in the exchange rate. Stability in the exchange rate is essential for sustained and orderly development of international trade and the international economy. It eliminates the element of speculation and uncertainty and thus promotes economic growth and world trade.

2. **Encourages Capital Movement and Prevents Capital Flight.** On account of the absence of uncertainty in the exchange rate, the risks involved in foreign investment both portfolio and direct are eliminated. Thus fixed exchange rates helps in promoting foreign investment and reallocation of investible surpluses in their best possible use across the countries bringing about maximum economic growth. It also protects the exchange rate from speculative attacks and prevents flight of foreign capital. The Mexican crisis of 1994 and the East-Asian crisis of 1997-98 are examples of currency crises compounded by capital flight.

3. **Prevents Speculation in the Foreign Exchange Market.** Under a flexible exchange rate system, the speculators in the foreign exchange market may take advantage of the fluctuations in the exchange rate. Real flows will be replaced by monetary flows i.e. buying and selling of foreign exchange. Speculative buying and selling becomes destabilis9ng particularly when the foreign exchange rates are manipulated to make unfair speculative gains. Manipulative speculative gains not only hinders international trade in goods and services but also hampers the economic interests of the countries whose currencies are brought under speculative attack. Fixed exchange rate eliminates the possibility of speculation and brings about stability in the exchange rate.

4. **It is Anti-inflationary in Effect.** Fixed exchange rates are consistent with domestic price stability. Governments therefore cannot pursue expansionary monetary and fiscal policies without a tab on inflation. Thus reckless monetary expansion and unproductive public expenditure will be under control to impart price stability. A rise in domestic prices will reduce the demand for exports and increase the demand for imports causing a deficit in the balance of payments. This will necessitate running down the foreign exchange reserves to maintain the fixed exchange rate. However, if the deficit

persists, the country will have to resort to devaluation. Hence domestic price stability becomes essential under a fixed exchange rate regime.

5. **Encourages Globalization or Integration of the World Economy.** Fixed exchange rates encourage prudential macro-economic management so that price differential amongst the countries remain constant or gets reduced overtime to bring about purchasing power parity amongst the countries of the world. Fixed exchange rate is therefore similar to a single world currency which promotes across the border mobility of capital, goods and services and helps in integrating the world economy.

6. **Encourages the Growth of Domestic Capital and Money Markets.** Due to fixed exchange rates, there will be price stability and interest rate stability. Interest rate stability will promote the growth of both money and capital markets. In case of flexible exchange rates, there may be interest rate differentials between the countries on account of changes in the exchange rate. Thus if the domestic interest rates are high, entrepreneurs may borrow from countries where interest rates are low. As a result, the domestic money and capital markets will not grow in a steady manner.

DEMERITS OF FIXED EXCHANGE RATE SYSTEM

1. **Macro-economic Objectives of Full Employment and Price Stability are bartered for maintaining Fixed Exchange Rates.** When a country has a surplus in the balance of payment, it can make adjustment by increasing the prices. Such an action imposes heavy social costs on the country in terms of sacrificing the objectives of price stability and full employment.

2. **Maintenance of Large Foreign Exchange Reserves.** Countries with balance of payment deficits need to maintain large foreign exchange reserves to avoid devaluation. Maintenance of large reserves of foreign exchange imposes a burden on the monetary authorities both in terms of management of the reserves and the cost of managing the reserves.

3. **Mal-allocation of Resources.** Fixed exchange rate system requires exchange control system which is generally complicated. Exchange controls lead to mal-allocation of scarce resources.

4. **Comparative Advantage is not clear.** The comparative advantage of a country is not very clear. For example, the

exchange rate may be so low that a product may seem to be cheap to the other country. The country may therefore export that commodity in which it has no comparative advantage.

5. **The Exchange Rate Cannot Remain Fixed for a Long Time.** Fixed exchange rate cannot remain fixed for a long time. Balance of payment problems and fluctuations in international commodity prices may compel countries to bring changes in exchange rates.

6. **Balance of Payment Disequilibria Continues.** The fixed exchange rate system fails to solve the problem of balance of payment disequilibria. It can be tackled only temporarily. In the long run, permanent solution lies in monetary, fiscal and real measures.

7. **Dependence on International Financial Institutions.** Under the fixed exchange rate system, a country has to depend upon international financial institutions for borrowing and lending of foreign currencies.

8. **Problems of International Liquidity.** In order to expand trade, a country must have adequate international liquidity. In order to maintain fixed exchange rates, a country must have large reserves of foreign currencies to avoid balance of payment disequilibrium. Further, excessive international liquidity may lead to excess demand and create the problem of international inflation.

8.6 MANAGED EXCHANGE RATES AND EXCHANGE RATE MANAGEMENT

A floating exchange rate or a flexible exchange rate is a type of exchange rate regime wherein a currency's value is allowed to fluctuate according to the foreign exchange market. A currency that uses a floating exchange rate is known as a floating currency. The opposite of a floating exchange rate is a fixed exchange rate. There are economists who think that, in most circumstances, floating exchange rates are preferable to fixed exchange rates. As floating exchange rates automatically adjust, they enable a country to: dampen the impact of shocks, and foreign business cycles, and to preempt the possibility of having a balance of payments crisis. In cases of extreme appreciation or depreciation, a central bank will normally intervene to stabilize the currency. Thus, the exchange rate system of floating currencies is known as **managed float.** A central bank might, for instance, allow a currency price to float freely between an upper and lower bound, a price "ceiling" and "floor". Management by the central bank may take the form of

buying or selling large lots in order to provide price support or resistance.

India followed a fixed exchange rate system until the adoption of new economic policy in 1991. However, after the adoption of floating exchange rate policy in 1991, the exchange rate of rupee versus the dollar became volatile. The foreign exchange rate of Indian rupee began to fluctuate greatly with changing market conditions. In order to prevent both depreciation and appreciation on a large scale, the Reserve Bank of India has to take appropriate monetary measures to maintain stability in the foreign exchange rate of rupee. The exchange rate of Indian rupee is freely determined by the market forces of demand for and supply of US dollars. The disequilibrium in the foreign exchange market causes changes in the exchange rate. For example, in August 2000, the rupee depreciated against the US dollar because of higher demand for US dollars. Higher demand for US dollars was caused by factors such as higher import demand by Indian corporates, capital outflow to the US by FIIs on account of rising interest rates in the US and increase in demand for US dollars by Indian banks . Since export income and capital inflows were not good enough to match rising demand for dollars, the rupee depreciated against the US dollar. In order to stop the downfall of the rupee, the Reserve Bank of India raised the bank rate from 7 per cent to 8 per cent thereby forcing the commercial banks to increase their lending rates. The Cash Reserve Ratio was raised from 7 to 7.5 per cent so that liquidity in the banking system was reduced. The Reserve Bank was able to increase the cost of credit and reduce the availability of credit simultaneously so that domestic demand for US dollars is reduced. The higher interest rates in India would also discourage FIIs and Indian corporates to invest abroad. This will help to reduce the demand for dollars and prevent the fall of the Indian rupee. The Reserve Bank of India can also take recourse to releasing foreign exchange reserves to prevent the depreciation of the rupee. The release of more dollars by RBI will increase the supply of US dollars in the foreign exchange market and will correct the disequilibrium thereby stabilizing the exchange rate of rupee.

However, if the rupee appreciates, it will raise the prices of Indian exports and make them uncompetitive. As a result exports will be discouraged. This was the situation in 2003-04 when due to the huge inflow of foreign exchange into India, supply of US dollars increased tremendously. As a result, the value of US dollars fell and the Indian rupee appreciated. The exchange rate of US $ which had gone down to about Rs.48 rose to Rs.43.50 in early 2004. In order to prevent the appreciation of the Indian rupee, the RBI intervened and started buying US dollars from the market. As a result, demand for US $ in the market increased bringing about

rise in the value of US dollar in terms of rupees. Thus with the intervention of the RBI the value of the Rupee was stabilized.

8.7 SIGNIFICANCE OF FOREIGN EXCHANGE RESERVES

The foreign exchange reserves of a country consist of foreign currency assets, gold holdings and special drawing rights held by the Central Bank. The net result of the external transactions of a country is indicated by changes in the foreign currency reserves and special drawing rights (SDR). The SDR is an international reserve asset created by the IMF to supplement the reserve assets of member nations. It was introduced in the year 1969. It is pegged to the value of a standard basket of four currencies of the leading members of the IMF. Most countries of the world have adopted managed flexible exchange rate system. In this system, exchange rate is targeted by the Central Bank and in order to maintain the targeted exchange rate, Central Bank needs to intervene in the foreign exchange market by buying and selling the foreign currency assets.

Maintaining foreign exchange reserve is important because it imparts stability to monetary and exchange rate policies. If the exchange rate is volatile and fluctuates widely, it will impart very little confidence in the domestic currency of a country. Further, the Central bank will have to adjust its monetary policy on a regular basis to bring about stability in the exchange rate. Unstable exchange rates therefore leads to unstable monetary policy and traders would lose confidence in the economy of a country. Adequate foreign exchange reserves facilitate the Central Bank to intervene in the foreign exchange market when the currency appreciates or depreciates in an unusual manner.

The amount of foreign exchange reserves that should be held by a country depends upon the geographical size and national income of a country. Other important factors are current account deficit, capital account vulnerability, vulnerability of exchange rate flexibility and opportunity cost. The reserves held by a country should be sufficient to pay for about six months imports. Robert Triffin studied twelve leading countries during the period 1950 to 1957 and concluded that a country must hold at least 35 per cent of foreign exchange reserve as a ratio of annual import. India today has a foreign exchange import cover of more than 12 months. Countries may go through short term business cycles and there may be a surge in imports during the upswing. Similarly, imports may suddenly decline during the down swing. In both the cases, the international value of the domestic currency will change. The Central Bank would need foreign exchange reserves to stabilize the exchange rate.

In India, the report of the Committee on Capital Account Convertibility (CAC) constituted by the Reserve Bank of India under the chairmanship of Mr. SS Tarapore laid down four conditions to determine the adequacy of foreign exchange reserves. The first condition is to have sufficient foreign exchange reserves to pay for six months of import. The second condition is that the country must have reserves to pay for three months import and fifty per cent of annual debt service payments. The third condition is that the short term debt and portfolio stock should not be more than sixty per cent of the level of reserves and the fourth condition is that the net foreign exchange assets to currency in circulation to be maintained at seventy per cent with a minimum of forty per cent.

8.8 CONCEPT OF FOREIGN EXCHANGE RESERVES AND ITS COMPONENTS

The foreign exchange reserve of a country consists of foreign currency assets held by the Central Bank, Gold holdings by the Central Bank and Special Drawing Rights (SDRs). For instance, India's foreign exchange reserve also consists of gold, SDRs and foreign currency assets. Gold is not used for current transactions. It does not say anything about the balance of payment situation of the country. The net result of the external transactions of a country is indicated by changes in the foreign currency reserves and special drawing rights.

GOLD

As on 20th April 2018, the value of gold was USD 21,484 million. On 19th April, 2019, the value of gold went up to USD 23,303 million. In percentage terms, gold reserves went up by 8.47% during the year.

SPECIAL DRAWING RIGHTS

In the 1960s, the need to increase international monetary reserves was felt by the advanced capitalist countries. In 1968, the leading nations agreed to give the IMF the power to create SDRs or new international reserves or paper gold. In 1969, the SDR was created by the IMF to supplement the reserve assets of member nations. Between 1970 and March 2016, the IMF has created 204.1 billion SDRs which are equal to USD 285 billion. These SDRs have been allocated to member countries. SDRs can be exchanged for freely usable currencies. The value of the SDR s based on la basket of five major currencies: the US Dollar, Euro, the Chinese Renminbi (RMB), the Japanese Yen and UK Pound Sterling as of 01st October 2016. Unlike regular IMF loans, the SDRs drawn by member nation need not be paid back to the Fund. The basket of currencies is reviewed every five years to ensure that the constituent currencies are representative of those used in

international transactions and that the weights given to the currencies reflect their relative importance in the world's trading and financial systems. The allocation of SDRs to member countries is done in proportion to their quotas in the IMF and the quota of each member nation is determined by its share of national income in the world. Every member of the IMF is required to subscribe to the fund an amount equivalent to its quota. Each member is assigned a quota in terms of SDRs. Quotas are used to determine the voting power of members, their contribution to the Fund's resources and their share in the allocation of SDRs. A member's quota reflects its economic size in relation to the total membership of the Fund. Each member pays a subscription to the IMF equal to its quota and the IMF decides on the amount of SDRs to be paid. A member nation is required to pay about 25 per cent of its quota in SDRs or in currencies of other members selected by the IMF and the remaining contribution can be paid in the home currency of the member. The IMF holds huge resources in members' currencies and SDRs which are available to meet member countries' temporary balance of payments requirements. The SDR holding of India as on 20thApril 2018 was 1538 million USD. As on 19th April 2019, SDR holdings went down to USD 1456 million.

Table 16.1 – Foreign Exchange Reserves of India (in USD millions)

S.No.	Item	As on 20 Apr 2018	As on 19 Apr 2019
1.	Foreign Currency Assets	398,486	386,034
2.	Gold	21,484	23,303
3.	Special Drawing Rights (in millions)	1059	1,049
	Special Drawing Rights (in USD Millions)	1538	1,456
4.	Reserve Tranche Position in IMF	2075	3,355
	Total	**423,583**	**414,147**
Source: table 32, RBI Bulletin – May 2019			

FOREIGN CURRENCY ASSETS.

In 1990-91, the foreign currency reserves were at the decadal low of USD 2.236 billion. By 1993-94, the foreign currency assets reached ten times the figure of 1990-91. The rise was due to drawings from the IMF. Net foreign investment in India thereafter contributed to the increasing trend in foreign currency assets. On 20th April 2018, the foreign currency assets were USD 398,486 millions. The same declined to USD 386,034 millions on 19th April 2019. India has come a long way from the foreign currency crisis of 1991 i.e. from a mere 2.23 billion reserves to 386 billion USD.

RESERVE TRANCHE POSITION IN IMF

The reserve tranche is an emergency account that IMF members can access without agreeing to conditions or paying a service fee. It is a fraction of the required quota of currency that each member country of the IMF must provide to the IMF. The member country can utilize the reserve tranche for her purpose. The reserve tranche fraction of the quota can be accessed by the member nation at any time. A member country can borrow more than her quota but must pay back principal with interest over a three-year period. If the amount being sought by the member nation exceeds its reserve tranche position, it becomes a credit tranche. In the beginning, a member nation's reserve tranche is 25% of her quota, but her reserve tranche position will change according to any lending that the IMF does with its holdings of the member's currency.

The RTP position of India as on 20th April 2018 was USD 2075 million whereas on 19th April 2019, the RTP position improved to USD 3355 million.

8.9 SOURCES OF DATA

1. **www.rbi.org.in (RBI bulletins and Reports).**
2. **Indian Economic Survey various years**
   http://indiabudget.nic.in
3. **http://finmin.nic.in**

8.10 QUESTIONS

1. Explain the meaning of Foreign Exchange Market.
2. Explain how free market Exchange Rate is determined?
3. Explain the Merits & Demerits of Flexible Exchange Rate System.
4. Explain market intervention by the Central Bank under Fixed Exchange Rate System.
5. Explain the Merits & Demerits of Fixed Exchange Rate System.
6. Explain the concept of Managed Exchange Rate.
7. Explain the significance of Foreign Exchange Reserves
8. Explain the concept of Foreign Exchange reserves and its components.

Modified Pattern of Question Paper for Semester End Assessment implemented from 2020-2021 For Economics courses at F.Y.B.A.

Duration 3 hours Total Marks = 100 (per semester)

All 5 questions carry 20 marks and are compulsory.
There will be internal choice in each Question.

Q1.Attempt any two questions (Module 1) 20marks
A.
B.
C.

Q2.Attempt any two questions (Module 2) 20marks
A.
B.
C.

Q3.Attempt any two questions (Module 3) 20marks
A.
B.
C.

Q4.Attempt any two questions (Module 4) 20marks
A.
B.
C.

Q5.Attempt any two questions (Module 1,2,3,4. One question from each module) 20 marks
A.
B.
C.
D.

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