# Module-I

# 1

# INFLATION

**Unit Structure:**





## 1.0 OBJECTIVES

- To study the meaning, features and effects of inflation.
- To understand the concept of hyper inflation.
- To study demand pull inflation and cost push inflation.
- To understand the concept Economics of Depression.
- To study the concept of Phillips curve.
- To study the nature of inflation in developing economy.

## 1.1 INTRODUCTION

A sustained rise in the general price level over a period of time is known as inflation. Conversely, a sustained fall in the general price level would be known as deflation. Inflation is measured in terms of a price index. For instance in India, we have the wholesale price index (WPI) and the consumer price index (CPI). The Price Index is based on a basket of goods and services. Within a given basket, the prices of some goods and services may rise or fall. However, when there is a net increase the price of the basket, it is called inflation.

## 1.2 MEANING OF INFLATION

Inflation is a rate of change in the price level. The rate of change is measured with reference to the base year so that a long term perspective is obtained with regard to price rise. For all practical purposes, inflation rate is measured on yearly basis. However, in recent years, the inflation rate is also measured on monthly and weekly basis. The rate of inflation can be measured as:

$$P = [(P1 - P0) / P0] \times 100.$$

For example, the price index based on the Wholesale Prices in India for the year 2003-04 was 180.3 and in 2004-05, it was 189.5. The rate of inflation for the year 2004-05 was 5.1 per cent. Inflation rate measured on the basis of wholesale price index (WPI) for the period 2005-06 to 2012-13 in India is given in Table 1.1

**Inflation Rate based on Wholesale Price Index (WPI) in India for the period 2005-06 to 2012-13**

| Year | Wholesale Price Index | Inflation Rate (%) P = [(P1 - P0) /P0] x 100 |
|---|---|---|
| 2005-06 | 104.5 | - |
| 2006-07 | 111.4 | 111.4– 104.5/104.5 x 100 = 6.6% |
| 2007-08 | 116.6 | 116.6–111.4/111.4 x 100 =4.6% |
| 2008-09 | 126.0 | 126.0 – 116.6/116.6 × 100 = 8.06 |
| 2009-10 | 130.8 | 130.8 – 126.0/126.0 × 100 = 3.80 |
| 201 0-11 | 143.3 | 143.3 – 130.8/130.8 × 100 = 9.55 |
| 2011-12 | 156.1 | 156.1 – 143.3/143.3 × 100 = 8.93 |
| 2012-13 | 164.8 | 164.8 – 156.1/156.1 × 100 = 5.57 |

## 1.3 FEATURES OF INFLATION

Everyone is familiar with the term Inflation as rising prices. It means the same thing as fall in the value of money.

According to Crowther,"inflation asa state in which the value of money is falling, i.e., prices are rising."

There are mainly three features of inflation which has been given as follows -

1. Continuous rise in prices

2. Excessive supply of money in the economy

3. Vicious circle of inflationary spiral created by the velocity of circulation of money.

## 1.4 CAUSES OF INFLATION

The causes of inflation are classified into two categories. They are demand side and supply side factors. These factors are discussed in this section.

### 1.4.1 Demand side Factors Causing Inflation:

Inflation is caused by a rise in aggregate demand over aggregate supply. Factors causing in aggregate demand over aggregate supply are as follows.

**1. Increase in Public Expenditure:**

Public expenditure has been increasing by leaps and bounds since the emergence of the Welfare State in the second half of the 20th century. Particularly in mixed economies with a pre-dominant public sector, the rise in public expenditure has been phenomenal. The interventionist role of the State has increased over time and the governments are seen to be responsible for building social and economic infrastructure.

For instance, Government expenditure has regularly increased in India. The Government expenditure in India has continuously increased since the beginning of economic planning. Rising government expenditure has been an important cause of inflation in India. The government or public expenditure was 15.3 per cent of GDP in 1960-61 and since then it has been on a continuous rise. In 1990-91, it was 31 per cent of the GDP. It further rose to 31.2 per cent in 2000-01. About 48% of the public expenditure inz India is on non-developmental activities. Expenditure on defense, interest payments and governmental machinery constitutes non-developmental expenditure.Expanding governmentalmachinery, rising defenseexpenditure, expenditure on subsidies and growing public borrowing has contributed to the rise in non-developmental expenditure. While non-developmental expenditure increases aggregate demand in the economy, it does not increase aggregate supply and hence price rise.

**2. Deficit Financing:**

There is no surplus or even a balanced budget. Governments do not spend according to their incomes. Government budgets are always deficit budgets which means, government expenditure is always greater than income. Increasing fiscal deficit is a general feature of the government budgets of developing countries. In order to finance the budget deficit, governments take recourse to public borrowing and also borrowing from their Central Banks. In order to raise resources for repaying public debt, governments may raise

the existing tax rates or raise new taxes. Deficit financing leads to rise in public expenditure and hence rise in aggregate demand, thereby causing inflation.

For example, the expenditure of the government of India has been more than its income. The gap between expenditure and income or the deficit is filled through deficit financing. The deficit is financed by borrowing funds from the banking system. If the borrowed funds are used for unproductive purposes, they will give rise to inflation. The government of India has used the borrowed funds for non-developmental purposes in a careless manner. The fiscal deficit during the year 2002-03 was Rs.145072 crore and in the year 2007-08, it was Rs.150948 crore.

**3. Increase in Money Supply:**

Increase in money supply over and above the quantity of output produced in the economy would result in price rise. Irving Fisher's quantity theory of money explains how increase in money supply without a proportionate increase in output leads to rise in prices and fall in the value of money. Commenting on the effect of money supply on prices, Dr. C Rangarajan, former Governor of the Reserve Bank of India states that "Money has an impact on both output and price. The process of money creation is a process of credit creation. Money comes into existence because credit is given either to the government or the private sector or the foreign sector. Since credit facilitates the production process, it has favorable impact on output. But at the same time the increased money supply raises the demand with an upward pressure on prices". Dr. Rangarajan has therefore accepted the fact in India, price effect of money supply is greater than output effect.

If increase in money supply was the only reason for rising prices then the rise in prices should be equal to the difference between the increase in money supply and increase in output. In the Indian context, no such relationship is found between the increase in money supply and the inflation rate. For instance, the inflation rate in the year 2004-05 was 5.1 per cent and the excess of money supply over real GDP was only 4.8 per cent. Going by Irving Fisher's formula, the inflation rate must be equal to excess money supply. However, in the Indian context, the inflation rate was slightly higher than the excess money supply. In subsequent years, it is surprising to find that the inflation rate has been much lower than the excess of money supply over real GDP. Divergence between excess money supply and the inflation rate is brought out in Table 6.2. It clearly means that there are other factors also which lead to increase in prices.

**Table 1.2**

**Comparison between Money Supply, Real GDP and Inflation Rate in India**

| Year | Increase in Money Supply M3 (%) | Change in GDP (%) at 1999-2000 Prices | Excess of Money Supply Over Real GDP (%) | Inflation Rate (WPI based) |
|---|---|---|---|---|
| 2003-04 | - | | | |
| 2004-05 | 12.3 | 7.5 | 4.8 | 5.1 |
| 2005-06 | 17.0 | 9.4 | 7.6 | 4.1 |
| 2006-07 | 21.3 | 9.6 | 11.7 | 5.9 |
| 2007-08 | 22.4 | 8.7 | 13.7 | 4.1 |

**(Source: IES 2007-08)**

**4. Corruption and Black Money:**

Financial corruption leads to creation of black money. Corruption by public servants and ministers amounts to unearned income and leakages in the system. Any leakage in the flow of production would reduce the total quantity of output and increase in aggregate demand. Further unreported incomes or black money would also cause rise in prices. Although unreported incomes are not entirely unearned incomes, they do contribute to excessive consumption expenditure and therefore cause rise in prices.\

According to Transparency International, India and Centre for Media Studies; India Corruption Report 2007, the below the poverty line households (BPL) in India paid a total bribe of Rs.8830 million to obtain public services in the year 2007. This amount is only the tip of the iceberg. Out of the 180 countries surveyed by Transparency International for corruption, India's rank was 74 with an index of 3.5 in the year 2006. An index of10 indicates complete freedom from corruption and an index of zero indicates total corruption. Countries like Finland, Denmark and New Zealand with a CPI (corruption perception index) score of 9.4 were found to be least corrupt. Countries with a CPI score of less than five are considered to have serious problem. India is therefore one of the most seriously corrupted countries in the world. Myanmar and Somalia with a CPI score of two were the most corrupt countries of the world.

### 1.4.2 Supply Side Factors Causing Inflation:

Supply lags in the economy causes aggregate supply to fall short of aggregate demand and cause price rise. These supply side causes are as follows.

#### 1. Fluctuating Agricultural Growth:

The rate of growth of output of food grains must be equal to the rate of growth of demand for food grains. Demand for food grains increases due to rise in incomes and rise in population. In poor countries, the income elasticity of demand for food grains is high. In poor countries, the agricultural sector is under-developed and largely dependent on nature. Thus when the agricultural sector fails to produce adequate output, the prices of agricultural goods rise.

In the Indian context, population growth rate and the rate of growth of agricultural output has remained the same in the last twenty years. Indian agriculture is dependent on monsoons. Thus bad and poor monsoons mean crop failure and rise in food prices leading to rise in the general price level in the country. In the year 2004-05, food production fell by seven per cent. In the subsequent two years, food production was by 5.2 and 4.2 per cent but once again fell to 0.9 per cent in the year 2007-08. The growth in real national income was much higher than the rise in food production thereby causing the prices to rise.

#### 2. Hoarding of Essential Goods:

When the agricultural sector fails, food pries begin to rise more rapidly than non-food prices. The problem of food price rise is compounded by hoarding of agricultural goods by traders. Artificial scarcity is created by both whole-sellers and retailers. As a result, there is much greater increase in prices than what is justified by real shortages. In the Indian context, both the big farmers and agricultural traders indulge in hoarding of agricultural goods during the periods of crop failure. In times of food scarcity, hoarding of food grains and other food products only helps the prices to rise further.

#### 3. Inadequate Rise in Industrial Production:

In the prosperity phase of the business cycle, there is a sustained rise ininvestment demand which causes a sustained rise in demand for industrial goods. If the capital goods industry fails to respond to the rise in demand, the prices of industrial goods will rise and when the prices of industrial goods goes up, the prices of consumer goods also rise. In the Indian context, during the period 1995-96 to 2001-02, the industrial sector registered slow growth. Inadequate increase in industrial production has also been an important cause of inflation in India.

## 1.5 EFFECTS OF INFLATION

Inflation is a theft of income of the unprotected segments of the society. Inflation is therefore a crime against the poor who experience a fall in their real incomes during a period of sustained price rise. Inflation affects the three most important functions of an economy namely; production, consumption and distribution in an adverse manner.

**(A) Effect of Inflation on Production and Economic Growth:**

In economies where labor is largely unorganized, single digit or creeping inflation will increase profitability and therefore lead to greater investment, employment, output, income, demand and prices. This is because the wages of unorganized laboris not indexed to inflation. The real wages of unorganized labor will always fall overtime during inflation whether anticipated or not. In the case of unanticipated inflation, the real wages of organized labor will also fall and may be compensated with a time lag. The firms will gain during the intervening period between unanticipated price rise and its compensation to labor. Thus from the point of view of production and economic growth, single digit inflation has a positive impact.

**(B) Effect of Inflation on Distribution of Income and Wealth:**

The impact of inflation with regard to distribution of income and wealth is not even on all sections of the society. In case of labor, the section that is protected from inflation is the organized labor whose wages and salaries are indexed to inflation. But unorganized labor is not protected from inflation and therefore their real incomes decrease on account of inflation. Similarly, debtors who have borrowed money on fixed interest gain on account of inflation because real interest rate falls during a period of rising inflation while creditors lose because at times the real interest rate may be zero and even negative. Similarly, people holding ownership capital like equity shares, balanced and growth funds make capital gains because of rising profits of business enterprises while people holding creditor capital like bonds, debentures, fixed deposits and income funds lose due to the fall in real interest rates. Broadly speaking, during an inflationary period, households lose and firms gain. Hence it is said that during inflation the rich become richer and poor become poorer.

**(C) Effect of Inflation on Consumption and Economic Welfare:**

Inflation is known as a poor man's tax. It reduces the purchasing power of money earned by the poor people and hence their economic welfare. The workers who do not get compensated for the increase in price rise, experience reduction in real incomes because their nominal income remains constant over a long period of time. Even those workers who get compensated for the price rise lose purchasing power during the intervening period between the rise in prices and the compensation in price rise. For instance, the Central and State Government employees in India get compensated for inflation twice in a year and there is always a lag of six months before such compensations are given. Economic welfare depends upon consumption of goods and services and during a period of

sustained rise in prices, the people are able to consume less goods and services. As a result, there is a loss of economic welfare.

## 1.6 HYPER INFLATION

On the basis of the rate of price rise, inflation is classified into five categories. They are **creeping or moderate inflation, walking, running, galloping and hyper inflation.** When the rate of price rise is less than three per cent per annum, it is called creeping inflation. An inflation rate of about three per cent per annum is considered creeping. When prices creep upwards at a moderate rate, inflation serves as an incentive to investment. As a result, the rate of investment, employment, output and aggregate demand rises in the economy and the economy moves into the prosperity phase.

When inflation rate crosses the three per cent mark and remains within single digits i.e. below the 10 per cent mark, it becomes walking inflation. Walking inflation leads to a much rapid fall in the purchasing power of money. However, the negative consequences of single digit inflation are not widely felt and hence it is considered within the tolerable limits. However, both monetary and fiscal policies are swung into action to control the rate of inflation and keep it within single digits.

When inflation rate is in double digits, it is known as running inflation. When prices begin to rise by more than 10 per cent per annum and the rate of inflation accelerates, money begins to flow away from productive activities into unproductive or speculative activities. As a result, the supply of goods and services fall in the economy and their prices begin to rise more rapidly. Thus commodity prices rise rapidly for want of investment and prices of gold, real estate and stocks rise more rapidly because more and more money is diverted from the productive sector to the unproductive sector.

When prices rise by about 100 per cent annum, the situation is known as galloping inflation and when the inflation rate is over 1000 per cent a year, it is called hyper inflation. Both galloping and hyper inflation signals the collapse of the economy. Productive activity is at an all time low, people lose confidence in the currency and the economy looks like more of a barter economy. During world war one, countries like Austria, Hungary, Germany, Poland and Russia experienced hyper inflation. For instancebetween 1920-23, the German price index rose from one to one billion. In 1994, the inflation rate in Georgia was 15000 per cent per annum. **In 2008, the inflation rate in Zimbabwe was 11.2 million per cent.** In such situations, the paper on which money is printed become more valuable than the money itself i.e. the intrinsic value of even paper money becomes greater than the face value. Thus if you sell money by kilograms you may get more money in return than by exchanging money in the market for goods and services.

## 1.7 DEMAND PULL INFLATION AND COST PUSH INFLATION

### 1.7.1 Demand Pull Inflation:

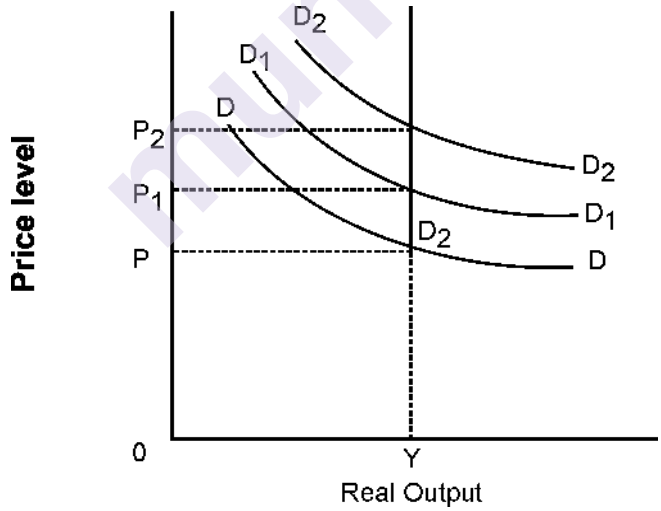
It may be defined as a situation where the total monetary demandpersistentlyexceeds total supply of real goods and services at current prices, so that prices arepulled upwards by the continuous upward shift of the aggregate demand function.

The demand-pull theorists point out that inflation might be caused by an increase in the quantity of money, when the economy is operating at full employment level. As the quantity of money increases, the rate of interest will fall and consequently, investment will increase. This increased investment expenditure will soon increase the income of the various factors of production. As a result, aggregate consumption expenditure will increase leading to an effective increase in the effective demand. With the economy already operating at the level of full employment, this will immediately raise prices, and inflationary forces may emerge. Thus, when the general monetary demand rises faster than the general supply, it pulls up prices.

By using the aggregate demand and aggregate supply curves, the demand-pull process be shown diagrammatically as follows:

**Figure No. 1.1**

**Demand pull inflation**




In the above figure, the X-axis measures real output and Y-axis measures the price level. Aggregate demand curves are D,D1,and D2 whereas S curve represents Aggregate supply function , which slopes upward from left to right and at point F it becomes a vertical straight line. At this point the economy reaches at full employment level. Hence real output remains same or inelastic at this point. D curve intersect S curve at point F, where real output or income is at full employment and OP is the price level. When aggregate demand increases from D to D1 and

D2, the real output or income will remain same but the price level tends to increase from OP to OP1 and further to OP2 .In short the inflationary process can be described as follows –

Increasing demand increasing prices – increasing costs – increasing income – increasing demand – increasing prices – and so on.

**Causes of Demand-pull inflation:**

**1. Increase in public expenditure –**

There may be an increase in the public expenditure (G) in excess of public revenue. This might have been possible through public borrowings from banks or through deficit financing, which implies an increase in the money supply.

**2. Increase in Investment –**

There may be an increase in the autonomous investment (I) in firms, which is in excess of the current savings in the economy. Hence, the flow of total expenditure tends to rise, causing an excess monetary demand, leading to an upward pressure on prices.

**3. Increase in MPC –**

There may be an increase in the marginal propensity to consume (MPC), causing an excess monetary demand. This could be due to the operation of demonstration effect and such other reasons.

**4. Increasing export and surplus Balance of Payments –**

In an open economy, increasing demand for exports leading to increasing money income in the home economy. Whereas in the domestic market there is reduction in the domestic supply of goods because products are exported. If an export surplus is not balanced by increased savings, or through taxation, domestic spending will be in excess of the value of domestic output.

**5. Diversification Resources –**

A diversification of resources from consumption goods sector either to the capital good sector or the military sector will lead to an inflationary pressure because the current flow of real output decreases on account of high gestation period involved in these sectors. The opportunity cost of war goods is quite high in terms of consumption goods meant for the civilian sector. This leads to an excessive monetary demand for the goods and services against their real supply, causing the increase in prices.

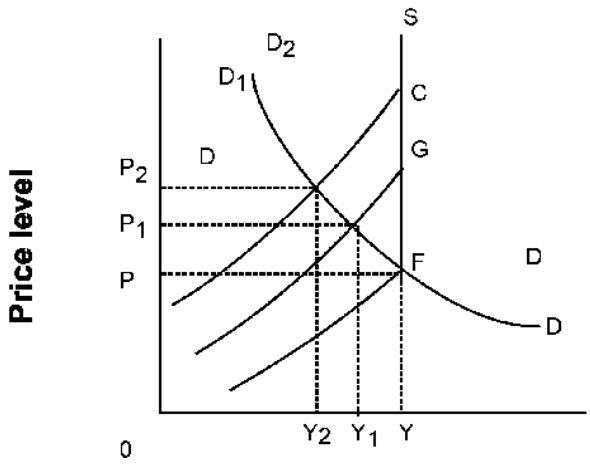
### 1.7.2 CostPush Inflation

It is sometimes also called as wage inflation as wages constitute nearly seventy percent of the total cost of production. When wages rise, it will lead to rise in cost of production and a consequent rise in the price level.

Cost-push inflation can be diagrammatically explained as follows.

**Figure No. 1.2**

**Cost push Inflation**




**Real Output**

In the above figure, demand curve D represent the aggregate demand function and SS represents aggregate supply function. The full employment level of income is OY. At this F is the point of intersection between aggregate demand and aggregate supply function. When aggregate supply function shifts upward to S1 it will become a vertical straight line at point G at full employment level. The new equilibrium point A is determined at OY1 level of output, which is less than full employment level at P1 level of prices. This means that with a rise in the price level unemployment increases. A further shift in the aggregate supply curve to S2 due to further increase in wages lead to further increase in price to P2 and fall in income level to OY2.

Cost-push inflation may occur either due to wage-push or profit-push. When there are monopolistic labour organizations, prices may rise due to wage-push. When there are monopolies in the product market, the monopolists may be induced to raise the prices in order to fetch high profits. Then there is profit-push in raising the prices.

**Check Your Progress :**

1. Define Inflation.
2. What are the various causes of demand-pull inflation? 3. Explain the causes of cost-push inflation.

## 1.8 ECONOMICS OF DEPRESSION

Economic depression is a period of sustained, long-term downturn in economic activity in one or more economies. It is a more severe economic

downturn than a recession which is a slowdown in economic activity over the course of a normal business cycle.

The economic depressions are characterized by their length, by abnormally large increases in unemployment, falls in the availability of credit (often due to some form of banking or financial crisis), shrinking output as buyers dry up and suppliers cut back on production and investment, more bankruptcies including sovereign debt defaults, significantly reduced amounts of trade and commerce (specially international trade) and highly volatile relative currency value fluctuations (often due to currency devaluations).

## 1.9 PHILIPS CURVE

Economic growth without inflation and unemployment is the objective behind macro-economic policies of modern times. However, in the short term, there seems to be a trade-off between inflation and unemployment and hence macro-economic policy makers need to balance between inflation, economic growth and unemployment. A low inflation rate is seen to accompany lower economic growth rate and higher unemployment whereas a high inflation rate is seen to accompany higher economic growth rate and lower unemployment. Here, in this chapter, we look at the Phillips curve which was the first explanation of its kind to show the negative relationship between unemployment and inflation rate. We also look at the long run picture and see whether the negative relationship sustains in the long run.

In 1958, AW Phillips, a professor at the London School of Economics published a study of wage behaviour in the United Kingdom for the years 1861 and 1957. Phillips found an inverse relationship between the rate of unemployment and the rate of inflation or the rate of increase in money wages. The higher the rate of unemployment, the lower the rate of wage inflation i.e. there is a trade-off between wage inflation and unemployment. The Phillips curve shows that the rate of wage inflation decreases with the increase in unemployment rate.

Assuming Wt as the wages in the current time period and Wt+1 in the next time period, the rate of wage inflation, gw, is defined as follows:

$$Gw = \frac{Wt+1 - Wt}{Wt} \qquad \text{……..(1)}$$

By representing the natural rate of unemployment with u*, the Phillips curve equation can be written as follows:

$$Gw = -\varepsilon (u - u^*) \qquad \text{…….. (2)}$$

where ε measures the responsiveness of wages to unemployment. This equation states that wages are falling when the unemployment rate exceeds the natural rate i.e. when $u > u^*$, and rising when unemployment is below the natural rate. The difference between unemployment and the natural rate, $u - u^*$ is called the unemployment gap. Let us assume that

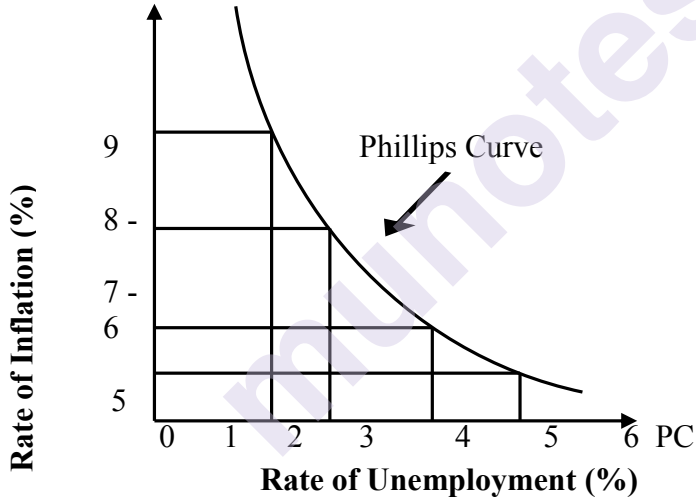
the economy is in equilibrium with stable prices and the level of unemployment is at the natural rate. At this point, if the money supply increases by ten per cent, the wages and the price level must rise by ten per cent to enable the economy to be in equilibrium. However, the Phillips curve shows that for wages to rise by ten per cent, the unemployment rate will have to fall. A fall in the unemployment rate below the natural level will lead to increase in wage rates and prices and the economy will ultimately return to the full employment level of output and unemployment. This situation can be algebraically stated by rewriting equation one above as follows.

$$W_{t+1} = W_t [1 - \varepsilon (u - u^*)] \quad \ldots\ldots\ldots (3)$$

Thus, for wages to rise above their previous level, unemployment must fall below the natural rate. The Phillips curve relates the rate of increase of wages or wage inflation to unemployment as denoted by equation two above, the term 'Phillips curve' over a period of time came to be used to describe a curve relating the rate of inflation to the unemployment rate.

Such a Phillips curve is depicted in figure no. 1.3.

**Figure 1.3**
**Phillips Curve**




You may notice that when the rate of inflation is ten per cent, the unemployment rate is three per cent and when the rate of inflation is five per cent, the rate of unemployment increases to eight per cent. Empirical or objective data collected from other developed countries also proved the existence of Phillips Curve. Economists believed that there existed a stable Philips Curve depicting a trade-off between unemployment and inflation. This trade-off presented a dilemma to policy makers. The dilemma was a choice between two evils, namely: unemployment and inflation. In a dilemma, you chose a lesser evil and inflation is a lesser evil for policy makers. A little more inflation can always be traded off for a little more employment. However, further empirical data obtained in the 70s and early 80s proved the non-existence of Phillips Curve. During this period, both Britain and the USA experienced simultaneous existence of high

inflation and high unemployment. While prices rose rapidly, the economy contacted along with more and more unemployment.

## 1.11 SUMMARY

1. A sustained rise in the general price level over a period of time is known as inflation.

2. On the basis of the rate of price rise, inflation is classified into five categories. They are creeping or moderate inflation, walking, running, galloping and hyper inflation.

3. Keynes explained inflation in terms of demand pull forces. When the economy is operating at the full employment level of output, supply cannot increase in response to increase in demand and hence prices rise.

4. In the absence of rise in aggregate demand, prices may rise due to increase in cost in terms of higher wages, higher input costs and higher profits. These are known to be autonomous increases in costs. Inflation on account of rise in costs is known as Cost push inflation.

5. Inflation affects the three most important functions of an economy namely; production, consumption and distribution in an adverse manner.

6. Inflation is the result of excess demand over the supply of goods and services. Inflation management, however, needs both demand and supply management as well. Both monetary and fiscal measures can be adopted to control inflation.

## 1.12 QUESTIONS

Q1. Explain the concept of inflation and state with example as to how the inflation rate is measured?

Q2. Explain the concept of Demand-pull inflation and the factors causing demand pull inflation.

Q3. Explain the concept of Cost push inflation.

Q4. Explain the effects of inflation on production, distribution and consumption.

Q5. Explain the measures to control inflation.

# 2

# STAGFLATION

**Unit Structure:**



## 2.0 OBJECTIVES

- To understand the meaning of stagflation.
- To study the causes of stagflation.
- To study the consequences of stagflation.

## 2.1 INTRODUCTION

The Keynesian economics emphasised the importance of adoption of demand management policies (like monetary and fiscal policies) to fight either inflation or to solve the problem of unemployment. Keynes was of the view that true inflation occurs only when the country reaches full employment. This implies that inflation and unemployment cannot exist simultaneously.

However, the Phillips Curve established an inverse relationship between inflation and unemployment. It was not possible for a country to achieve price stability and full employment at the same time. So, the policy makers came across the dilemma situation. The rate of inflation could be reduced only by allowing the rate of unemployment to rise and the rate of unemployment could be reduced only by allowing the rate of inflation to rise.

## 2.2 MEANING OF STAGFLATION

In 1070s most of the advanced capitalist countries of the world faced the problem of stagflation. It refers to a situation of high inflation and high unemployment, when the rate of growth of GDP itself is low. The Keynesian policy measures failed to solve this new problem. As a result, a new school of economics emerged. This is known as the supplyside

economics which lays stress on the management of aggregate supply to fight the disease of stagflation (i.e., inflation in the midst of stagnation).

The term stagflation refers to an economic situation where stagflation and inflation co-exist. It is characterised with low economic growth, increasing unemployment and high rate of inflation. It goes against the conclusion of Phillips Curve, the inverse relation between inflation and unemployment. In this we come across a continuous increase in price level and also increasing rate of unemployment.

Stagflation refers to the coexistence of inflation and unemployment in a stagnant economy.

The term "stagflation" was first used during a time of economic stress in the United Kingdom by politician Iain Macleod in the 1960s while he was speaking in the House of Commons. At the time, he was speaking about inflation on one side and stagnation on the other, calling it a "stagnation situation." It was later used again to describe the recessionary period in the 1970s following the oil crisis, when the U.S. underwent a recession that saw five quarters of negative GDP growth and inflation doubled in 1973 and hit double digits in 1974 unemployment hit 9% by May 1975.

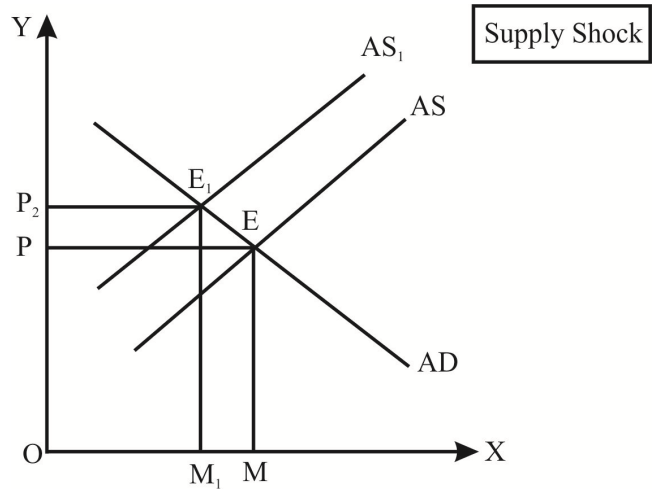
## 2.3 CAUSES OF STAGFLATION

Economists are not unanimous about the causes of stagflation. To some supply shocks or cost push as major factors responsible for stagflation where as others argued that demand pull is the main reason for this unusual economic phenomenon known as stagflation. Following are the factors responsible for of stagflation. The sharp rise in oil price.

**1. Supply Shock (The Oil Price Hike):**

Stagflation refers to the coexistence of inflation and unemployment in a stagnant economy. A high rate of unemployment means a reduced rate of output. The problem of stagflation occurred in the context of adverse supply shock caused by a sudden and a sharp rise in the price of crude oil in October 1973 by the OPEC (Organisation of Petroleum Exporting Countries) cartel. A sharp rise in oil price by almost 300% at a time raised the cost of in oil importing countries and resulted in high prices of several products. The reason was that oil was used as the main or subsidiary input in a large number of industries.

**Figure No. 2.1**




In the above diagram Real GDP(Y)/output is shown on the X-axis and Aggregate Price Level on the Y-axis. The curve AS is the Aggregate Supply Curve and AD is the Aggregate Demand Curve. The economy is in equilibrium at point E where AD curve and AS curve intersect with each other. At this equilibrium point E, the output in the economy is OM and the price level is OP. A supply shock such as a sharp rise in oil price increases the production costs of making goods and services in the economy. This results in the shift in the AS curve upwards from AS to $AS_1$. The new equilibrium point is $E_2$This results in an increase in price from OP to $OP_1$and fall in output from OM to $OM_2$. In this case the economy experiences fall in output i.e., increasing unemployment and a rise in price i.e., inflation. The output falls due to increase in cost of production and the price level rose due to fall in output and rise in cost. Thus, there was stagflation-fall in output and employment and cost-push inflation at the same time. A fall in production leads to unemployment and the country faces the problem of recession i.e., a situation of high price and low demand (due to fall in income).

**2. Cost-Push:**

Cost of production increases due to many factors besides the above-mentioned causes. Other factors are increase in wages, price of raw materials and other inputs. Cost also increases due to infrastructural bottlenecks.

**3. Low Productivity:**

Labour productivity is not only very low but may decline due to protection provided to the employees by the trade unions and labour laws enacted by the government. If trade unions have strong bargaining power – they may be able to bargain for higher wages, even in periods of lower economic growth. Higher wages are a significant cause of inflation. Similarly, if an economy experience falling productivity – workers becoming more inefficient; costs will rise and output fall.

**4. Social Benefits:**

Social benefits in the form of unemployment benefits, free supply of goods and services to the poor, food security schemes, minimum basic income scheme, provide income to the poor with no obligation to work create the problem of inflation. These benefits create more demand (inflation) and shortage of goods and services (stagflation).

**5. Excessive Regulation:**

Government policy bringing in excessive controls on production and distribution and rigid labour laws, results in less availability of goods and at the same time increase in cost.

**6. Higher Taxes:**

Government increases its expenditure with additional revenue. Cost of production increases due to higher tax which may affect supply and/or demand.

**7. Monetary Shocks:**

Cheap monetary policy whereby more money is pumped into the economy at a lower cost result in inflation.

**8. Deficit Finance:**

Government expenditure more than its revenue leads to more demand for goods and services resulting in higher prices.

**9. Policy Changes:**

Democratic governments with an eye on vote bank may introduce popular policy measures such as basic income policy, farmers debt waiver, free electricity, increase in procurement prices and increase in wages and salaries. All these measures increase demand with less than corresponding increase in production of goods and services.

**10. Rise in structural unemployment:**

If there is a decline in traditional industries, we may get more structural unemployment and lower output. Thus, we can get higher unemployment – even if inflation is also increasing.

**11. Causes in USA:**

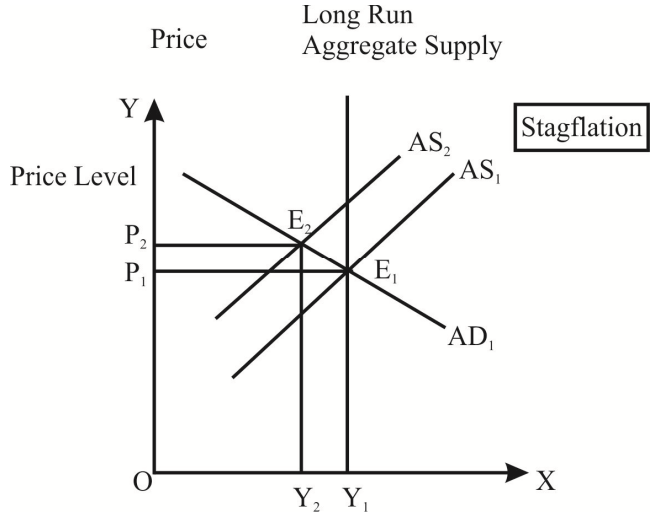
Fall in supply of agricultural products, depression of the dollar, removal of wage and price controls are also responsible for supply shocks in USA leading to stagflation. Huge military expenditure by USA in the wake of the Vietnam war in the late 1960s, workers expected the rate of inflation to accelerate in the early 1970s. So, labour unions demanded and succeeded in getting higher wages which later on created the problem of inflation due to increase in purchasing power. This further resulted in higher cost, fall in

output and aggregate supply curve shifting to left which finally resulted in stagflation.

## 2.4 CONSEQUENCES OF STAGFLATION

1. Stagflation refers to the coexistence of inflation and unemployment in a stagnant economy Stagflation is a situation of inflation in a stagnant economy. Thus, it has all the negative aspects associated with inflation and recession. It is a strange situation which neglects the conclusion of Phillips Curve.
2. It is a situation where economy is stagnant. Output and employment is stagnant, does not increase, yet prices continue to rise.
3. The economy is in recession state in terms of production and employment. It means the economy is in stagnant position. While unemployment increases, investment does not respond to the incentives provided by increase in prices. Decline in investment leads to less production of goods and services.
4. There is vicious circle of downfall. Less or fall in investment leads to fall in production which again results in less or fall in income. This leads to fall in the savings and then further decline in investment.
5. The above explained situation actually should lead to a decline in price. But on the contrary the price level increase. However, this inflation does not attract more investment and employment.
6. The economy does not have the advantage of a trade-off between inflation and unemployment. The relation is direct where people suffer from twin problems of inflation and unemployment. The production and supply are reduced, bringing down the income and employment and at the same time pushing the prices up. Any additional money supply to encourage more production and employment will only result in increase in prices with hardly any response from supply of goods and services. Following diagram will explain the effects on output and price.

**Figure No. 2.2**



Output is shown on the X-axis and the price level on the Y-axis. The original Aggregate Demand Curve $AD_1$ cuts the original Aggregate Supply Curve $As_1$ at the original equilibrium point $E_1$. The output is $OY_1$ and the price is $OP_1$. The aggregate supply curve shifts to the left i.e. from $AS_1$to $AS_2$. The new equilibrium point is $E_2$. The output falls from $OY_1$ to $OY_2$ and the price rises from $OP_1$ to $OP_2$. Here the economy experiences both the stagnation (falling output) and inflation (rising prices). This situation is termed as stagflation.

If we discuss the situation through Phillips Curve, we will have an upward sloping supply curve where both price level and unemployment increase together.

To bring out the economy out of stagflation the government may require to adopt a combination of measures which has simultaneous effect on inflation and stimulating production of goods and services. A judicious application of monetary, fiscal and other measures are required to be implemented.

## 2.5 SUMMARY

The term stagflation refers to an economic situation where stagflation and inflation co-exist. It is characterised with low economic growth, increasing unemployment and high rate of inflation. It goes against the conclusion of Phillips Curve, the inverse relation between inflation and unemployment. In this we come across a continuous increase in price level and also increasing rate of unemployment.

## 2.6 QUESTIONS

1. Explain the meaning and causes of stagflation. \

2. Discuss the consequences of stagflation with the help of a diagram.

# Module – II

# 3

# MONETARY POLICY

**Unit Structure:**



## 3.0 OBJECTIVES

- To understand the meaning of Monetary Policy.
- To see the objectives of Monetary Policy.
- To study the quantitative and qualitative instruments of Monetary Policy.
- To see the limitations of Monetary Policy.
- To know the role of Monetary Policy in Developing Economies.

## 3.1 INTRODUCTION AND MEANING OF MONETARY POLICY

**Monetary policy can be defined as a policy of the Central Bank that seeks to influence the cost and availability of credit in an economy.** By influencing the cost and availability of credit, by controlling inflation and by maintaining equilibrium in the balance of payments, monetary policy plays an important role in increasing the growth rate of the economy. Monetary policy is an important macro-economic instrument through which the macroeconomic objectives of a country is sought to be achieved. The broad objectives of monetary policy are to obtain economic growth, price stability, full employment, exchange rate stability and equilibrium in the balance of payments. Monetary policy influences the supply of money and the rate of interest in order to stabilize the economy at full employment or near full employment level by changing the level of aggregate demand in the

economy. Businesscycles are sought to be controlled with the help of the tools of monetary policy. Thus, during recession, money supply is increased and interest rates are brought down to increase the level of aggregate demand in the economy because it is the level of aggregate demand that determines the level of employment, output and income in n economy. Conversely, during the times of high inflation, price rise sought to be controlled by reducing the money supply and raising the interest rates which brings about a fall in the aggregate demand and prices. In the context of a developing country l like India, monetary policy aims to achieve sustained economic growth in the different sectors of the economy.

All countries have a central bank or a reserve bank which formulates and implements the monetary policy. For instance, in India, it is the Reserve Bank of India which is the apex monetary authority of the Indian monetary system. **In the United Kingdom, it is the Bank of England whereas in the United States, it is the Federal Reserve Bank, popularly known as the Fed.** The objectives of the Fed are no different from the objectives of any other central bank. Similar to the Reserve Bank of India, the Fed's objectives include economic growth according to the expansion potential of the economy of United States, a high level of employment, stable prices and moderate long term interest rates. **The objectives of the Reserve Bank of India as according to the Chakravarty Committ4eee Report are economic expansion and inflation control.** While economic expansion ensures growing levels of employment, inflation control ensures price stability and moderate interest rate. The Reserve Bank of India was established on 01st April, 1935. The Government of Free India felt that a State-owned Central Bank will be more conducive to pursue the macro-economic objectives of the government and hence the Reserve Bank of India was nationalized on 01st January, 1949.

## 3.2 OBJECTIVES OF MONETARY POLICY

The basic objective of monetary policy is to achieve sustained economic growth with a fair amount of price stability. The monetary policy is a part of the government's economic policy. It is formulated and implemented to achieve the macro-economic objectives. The macro-economic objectives depends upon the state of the economy i.e. both the general economic conditions and the sectoral and sub-sectoral economic environment. Suitable monetary instruments are put to work to cater to the specific requirements of the sectors and sub-sectors of the economy. While broadly the goals of monetary policy are identical in all capitalist countries, they may be fine tuned to the specific requirements of different countries as different countries are at different stages of economic growth and development. Therefore, the broad andgeneral objectives of monetary policy are economic growth, full employment, price stability, exchange rate stability and equilibrium in the balance of payments. These objectives are discussed below.

**(A) Economic Growth**

Sustained economic growth is the basic as well as the prime objective of monetary policy in all countries; rich as well as the poor. Sustained economic growth refers to a continuous growth in the productive capacity of the economy resulting in a continuous growth in the total quantity of goods and services produced in an economy. Such a growth process will be reflected by a continuous rise in the national income as well as the per capita income of the country. To achieve sustained economic growth, the Central bank's monetary policy must aim at maintaining a high level of aggregate demand in the economy. The monetary policy must also induce high levels of saving and investment in the economy to achieve sustained growth. The Central bank must ensure that the growth in money supply is in proportion the proportionate rise in the production of goods and services so that inflation rates are under control and below the rate of three per cent per annum.

A moderate inflation of less than three per cent per annum is considered as a sufficient incentive to higher investment whereas high rates of inflation lead to more speculative activities and less real growth. To maintain and ensure a sustained growth in aggregate demand, saving and investment in the economy and to obtain sustained economic growth, the Central bank's monetary policy must be flexible to cater to the changing requirements of the economy. Thus during a recessionary phase, la cheap monetary policy must be adopted so that money supply is increased, interest rates are brought down through a downward revision of the bank rate. Lower interest rates will encourage higher investment which will lead to higher level of employment, output, income and demand in the economy. During an inflationary phase, a dear monetary policy can be adopted and the opposite impact can be obtained.

**In the Indian context, monetary policy can promote economic growth by increasing the quantum of credit and by reducing the cost of credit.** Firms need credit to finance their working capital requirements, importing raw materials and machines and for financing investment in projects for building fixed capital. Adequate availability of credit at low interest rates will encourage investment and economic growth. During the pre-reform period, the Reserve Bank of India followed a tight monetary policy thereby reducing the supply of credit and increasing the cost of credit. This policy was given up in the post reforms period by deregulating interest rates, reducing CRR and SLR and thereby increasing the supply of credit in the economy. Only lower rates ofinflation will lead to low interest rates, adequate credit and growing investment for sustained economic growth. **A consensus has been arrived at with regard to inflation rate i.e. inflation must be in the 4 to 6 per cent range and low inflation will ensure economic growth in the country.**

**(B) Full Employment**

The Central Bank's monetary policy must be geared to achieve full employment of all the available productive resources in the economy.

However, in reality, the term full employment refers to near full employment of productive resources or less than full employment. It has been accepted by the economists that about three per cent unemployment is actually full employment and that absolute full employment is only a theoretical possibility propounded by the classical economists like JB Say and others. By stimulating saving and investment, higher levels of employment of available productive resources can be obtained. However, monetary policy will be successful only in highly organized and industrialized economies in achieving higher or near full employment. In the context of developing countries like India which is predominantly agricultural from the employment point of view, monetary policy will be irrelevant and sterile in tackling the problems of seasonal and disguised unemployment which are substantially high in India. However, the problem of unemployment; both seasonal and disguised can be tackled by bringing about a structural change from the point of view of sectoral composition of employment. But to bring these changes, monetary policy alone will be not enough. The fiscal policy, industrial policy and agricultural policy along with monetary policy can only solve the peculiar problems of developing or under developed countries like India.

**(C)Price Stability**

A capitalist economy is vulnerable to cyclical fluctuations or business cycles. Monetary policy must aim at avoiding or neutralizing both the peaks and troughs of business cycles. The monetary authorities must prevent the economy from being caught in n inflationary spiral and going down in deflationary spin. Both inflation and deflation are inimical to the health of the economy. High rates of inflation or double digit inflation encourages speculative activity in the economy and channelizes productive resources into un productive uses along with other attendant evils such a s hoarding, black-marketing, food adulteration etc. Persistent double digit inflation rapidly erodes the purchasing power of unorganized labor in particular and results in widening of income inequalities. Similarly, a deflationary spin would result in falling prices, investment, employment, output, incomes and aggregate demand. However, a moderate rise in price of less than three per cent per annum also known as creeping inflation will be consistent with the objective of achieving price stability. In order to achieve price stability and at the same time ensure economic growth, the monetary policy needs to encourage saving and investment but also it should be anti-cyclical in character. Thus during the times of recession or near zero rates of inflation, the monetary policy must be expansionary and during the times of double digit inflation a contractionary or tight monetary policy must be pursued.

**In the Indian context, Dr. C Rangarajan, former Governor of Reserve Bank of India, observed that monetary policy can effectively achieve the goal of price stability.** Higher level of investment is accompanied by agricultural failures and inflation. Monetary policy therefore has to play an important role in short run management of the general price level in the economy. In the Indian context, price stability refers to moderate rise in prices i.e.price rise in the range of 0 to 5 per cent per year. Inflation rate beyond the five per cent mark has unwanted effects on the economy. It

increases the cost of living and affects greatly the unorganized labor in the country. It increases the export price and hence demand for exports fall. During a period of rapid rise in prices, exports fall and imports rises thereby creating balance of payments problem. It also reduces the rate of saving because real interest rate becomes negligible to negative and real incomes of the people are also falling. Falling saving rates and falling demand reduces the rate of investment and economic growth. Finally, inflation encourages unproductive investment in gold, real estate and the stock markets. Prof. Chakravarty recommended a four per cent rate of inflation as reasonable.

**(C) Exchange Rate Stability**

Stability in the foreign exchange rate imparts international confidence in the value of the domestic currency and promotes a sustained growth in the international trade. A persistent fall in the exchange rate would encourage speculative activity in foreign exchange market and a break-down of international confidence in the international value of a currency may also result in the flight of foreign capital thus plunging the economy into a currency crisis. However, to maintain exchange rate stability, internal price stability needs to be maintained. A fall in the exchange rate is caused by an excess demand for foreign exchange over its supply. In other words, if demand for imports is greater than the demand for exports, the exchange rate will rise and the international value of the domestic currency will fall. To maintain stability in the international value of the currency, a restrictive monetary policy will have to be adopted to bring about a reduction in money supply and the demand for imports.

**In India, in the pre-reform period, the Reserve Bank of India pursued a policy of fixed exchange rate system and devalued the rupee as and when required with the permission of the IMF.** But after 1991, India adopted the floating exchange rate system. Floating exchange rate system increases volatility and transmits its effects on the other sectors of the economy. With a view to prevent volatility, the RBI has to take suitable measures to maintain exchange rate stability. For instance when the rupee depreciated against the dollar and reached a low of Rs.48 to a dollar, the RBI took a number of measures to stop the fall of the rupee. It raised the bank rate from 7 per cent to 8 per cent and increased the CRR from 7 to 7.5 per cent. These steps increased the lending rates and reduced the supply of credit in the economy. Thus by increasing the cost of credit and reducing the availability of credit, borrowing from the banks was discouraged with a view to reduce the demand for dollars. Similarly, high domestic interest rates would discourage foreign institutional investors and domestic corporate sector to invest abroad. The reverse action is taken when the rupee appreciates beyond reasonable limits. For instance, during 2003-04, on account of huge inflows of foreign exchange in India, the rupee appreciated to 43.50 in early 2004. In order to prevent the appreciation of Indian rupee, RBI started buying US dollars from the market and stopped the appreciating

rupee. Unwarranted appreciation and depreciation will have negative consequences on the economy and hence Reserve Bank of India's intervention is necessary to manage exchange rate stability.

**(E) Equilibrium in the Balance of Payments**

Exchange rate stability and equilibrium in the balance of payments are interlinked. A country having a deficit in the balance of payments can pursue a contractionary monetary policy and correct the deficit in the balance of payments. A contractionary monetary policy would reduce the money supply in the economy and thus reduce the demand for imports. Further fall in the money supply would also reduce domestic prices on account of reduced domestic demand. Lesser domestic prices will lead to increase in the demand for exports. Finally, higher domestic interest rates will attract foreign capital. Thus reduced demand for imports, increased demand for exports land inflow of foreign capital will help correct the deficit in the balance of payments and bring about equilibrium.

**(F) Developing Banking & Financial Institutions**

Development of Banking and Financial Institutions in a developing country is required to encourage, mobilize and channelize savings for capital formation. The Central Bank should also develop money and capital markets which are required for the success of development oriented monetary policy.

Debt management is one of the important functions of monetary policy in a developing country. It aims at proper timing and issuing of government bonds, stabilizing their prices and minimizing the cost of servicing the public debt. The primary aim of debt management is to create conditions in which public borrowing can increase from year to year. **Public borrowing is essential in such countries in order to finance development programs and to control money supply.** Monetary policy thus helps in controlling inflation or achieving price stability, maintaining stable exchange rates and equilibrium in balance of payments, encouraging capital formation and promoting economic growth.

## 3.3 INSTRUMENTS OF MONETARY POLICY

The instruments of monetary policy available at the disposal of the Central Bank can be classified into general or quantitative instruments and selective or qualitative instruments. The general instruments are macro-economic in impact and are used to control the volume of credit so as to control the inflationary and deflationary pressures caused by business cycles. The general instruments consist of the bank rate policy, open market operations and cash reserve ratio. The selective instruments of monetary policy are used to regulate the use of credit and hence they are sectoral in impact. Selective instruments therefore do not affect the entire economy. Selective instruments are used with an objective to divert the flow of credit to their desirable and productive uses. The selective instruments consist of margin requirements, regulation of consumer credit, use of directives, credit rationing, moral suasion and publicity and direct action.

## (A)Quantitative or General Instruments of Monetary Policy

### 1. Bank Rate or the Discount Rate Policy

Bank rate or the discount rate is the interest rate charged on borrowings made by the commercial banks from the Central Bank. The Central Bank provides financial assistance to the commercial banks by discounting eligible bills, loans and approved securities. The objective of the bank rate policy is to influence the cost and availability of credit to the commercial banks and the borrowers at large in turn. The cost of credit is determined by the discount rate or the interest rate charged and the availability of the credit is determined by the legal requirements of making the bills eligible and the duration of the loan. When the Central Bank changes the bank rate, the interest rates in the economy also changes.

Changes in the bank rate can therefore make credit cheaper or dearer and also influence the demand for and supply of credit. A rise in bank rate will result in a rise in the deposit and lending rates of banks and vice versa. A fall in the bank rate signals an expansionary monetary policy whereas a rise in the bank rate signals contractionary monetary policy.

The efficacy of the bank rate policy of the Central Bank is influenced by factors such as the development of the money market, liquidity of the banks, business cycles, development of the bill market and the elasticity of the economic system. If the money market where short term loans are made available is not well organized or well developed and consist of different rates of interest, he bank rate policy will not be effective in influencing the varied interest rates and hence realize the objective of making a change in the bank rate. Similarly, if the commercial banks do not approach the Central Bank for rediscounting facility on account of surplus liquid funds, the bank rate will fail to influence the market interest rates. Further, in order to obtain the rediscounting facility, the commercial banks must have sufficient quantity of eligible bills and securities. In the absence of well developed bill market, the bank rate policy will not have the desired effect on the money market interest rates. In the prosperity and recessionary phases of business cycles, investment demand is interest inelastic and hence changes in the bank rate will fail to influence investment demand. During the prosperity phase when the prices are gradually rising, profitability of investment also rises. Thus as long as the rate of return on investment is sufficiently greater than the market interest rates, investment demand will continue to rise. Similarly, during a recession, when prices are falling even if the bank rate falls leading to fall in the market interest rates, investment demand will not pick up because of the poor prospects of making profits. Finally, changes in the bank rate must influence interest rates, prices, costs and trade. The economic system should be sufficiently elastic and respond to the changes in the bank rate. Systemic rigidities will not create the desired impact.

## 2. Open Market Operations

Open market operations refer to buying and selling of government securities in the open market. By doing so, the Central Bank can increase or decrease bank reserves. When the Central Bank sells government securities in the open market, the bank reserves fall to the extent of the sale multiplied by the reverse credit multiplier and vice versa. The open market operation is an important instrument of stabilization in the general price level in the hands of the Central Bank. The Central Bank decides on its monetary policy options given the macro-economic conditions. In an inflationary situation, with a view to control prices, the Central Bank will decide to sell government securities i.e., treasury bills which are short term government securities and long term bonds. By doing so, the Central Bank will reduce the bank reserves and thereby money supply will also be reduced. As a result, the interest rates in the money market will firm up, reducing investment demand. Reduction in investment demand will reduce employment, output and incomes thus reducing the level of aggregate demand in the economy. A reduction in the aggregate demand will help controlling the price rise. Selling government securities through the open market operation indicates a tight or dear monetary policy. A cheap monetary policy will operate exactly in the opposite direction when the Central Bank starts buying government securities in a recessionary situation.

Let us see, how exactly open market transactions in government securities takes place when the Central Bank decides on a tight monetary policy. The Central Bank sells government bonds or securities to dealers in the open market. The dealers in turn, resell them to commercial banks, corporates, financial institutions and individuals. The purchases generally buy government securities by drawing a check in favor of the Central Bank. For instance, if the Reserve Bank of India sells Rs.10 million worth of treasury bills to Ms. Kareena, she will draw a check on State Bank of India where she has a bank account in favor of the Reserve Bank of India. The Reserve Bank of India in turn will present the check at the State Bank of India and when the State Bank of India pays the check, it will reduce its balance with the Reserve Bank of India by Rs.10 million. By the end of the day, the State Bank of India and the entire commercial banking system will lose Rs.10 million worth of reserves at the Reserve Bank of India. Assuming a cash reserve ratio of ten per cent, the Rs.10 million sales of government bonds will reduce money supply in the economy by Rs.100 million; the reverse credit multiplier being ten. This is how the money supply contracts to the extent of the sale multiplied by the reverse credit multiplier.

The success of Open Market Operation depends upon a number of factors such as development of the securities market, the rediscounting window available at the Central bank, risk-bearing ability of the Central bank, balance of payments, flow of capital, speculative activities etc. Nonetheless, open market operations are known to be more effective in controlling credit.

### 3. Cash Reserve Ratio

The Cash Reserve Ratio or the legal reserve requirements are an important part of the mechanism by which the Central bank controls the supply of bank money. The commercial banks are required to maintain a certain minimum amount of non-interest-bearing reserves out of its deposits with the Central bank. The cash reserve requirements are fixed by law land the Central bank has the statutory powers to change the reserve requirements. In India, the Reserve Bank of India Amendment Act, 1962 fixed reserve requirements at three per cent for all the liabilities of the Commercial banks. The Amendment Act also gave powers to the Reserve bank of India to determine reserve requirements in the range of three per cent and 15 per cent. The Central Bank maintains a higher reserve ratio in order to control money supply and facilitate the smooth conduct of Open market Operations. The reserve requirements above the level that banks desire and thereby control the short-term interest rates more effectively.

The Central bank can change cash reserve requirements in order to change the quantity of money supply. Under inflationary conditions, the Central bank may follow a dear money policy and may raise the reserve requirements within the given range of three per cent to fifteen per cent. Let us see with an example how changes in the reserve requirements bring about changes in the credit creating capacity of the commercial banks. Assume that the total deposits with the commercial banks are equal to Rs.1000 billion and the Cash Reserve Ratio is five per cent. The commercial banks will have to maintain Rs.50 billion worth reserves with the Central Bank. The excess reserves with the commercial banks being Rs.950 billion, the banking system will be able to create credit twenty times its excess reserves i.e. Rs.950 × 100 ÷ 5 = Rs.19 Trillion. Pursuing a tight or dear monetary policy, if the Central bank decides to raise the reserve requirements to ten per cent, then the excess reserves will be Rs.900 billion and the banking system will be able to create only ten times its excess reserves i.e. Rs.9000 billion. Thus, when the reserve requirements are raised, the credit creating capacity is reduced and vice-versa. However, in reality, the increase and decrease in reserve requirements is never made on a scale as stated above because such large changes will lead to steep fall or rise in the interest rates. For instance, a steep hike in the Cash Reserve Ratio will lead to very high interest rates, credit rationing, huge decline in investment and large reduction in national income and employment. Changes in the reserve requirements are made incrementally or marginally and in a phased manner i.e. if the current reserve requirement is 10 per cent, with tight monetary policy, the reserve requirement may be raised to 11 per cent and thereafter with a gap, it may be raised by one more percentage point to 12 per cent. Similarly, a cheap monetary policy would entail a marginal and phased reduction in the Cash Reserve Ratio.

### (B)Selective or Qualitative Instruments of Monetary Policy

The selective instruments of monetary policy are invoked to influence the use and volume of credit available for particular purposes in specific sectors of the economy. Selective instruments are used to discriminate between

various uses of credit in the various sectors so that the available credit in the various sectors is put it its most desirable land productive use. Margin requirements, consumer credit regulation, directives, credit rationing, moral suasion and direct action are the different selective or qualitative or specific instruments of monetary policy. These instruments are as follows.

### 1. Margin Requirements

Margin requirement determines the loan value of a collateral security offered by the borrower. The loan value of a security is the difference between the market value and the margin requirement. For instance, if the market value of 10 grams of gold is Rs.12000 and the margin requirement is 25 per cent then the loan value of 10 grams of gold as a collateral security would be Rs.9000. Equity shares, bonds, precious metals and other financial land real assets are accepted by commercial land co-operative banks as collaterals for granting loans. The Central Bank which is the apex monetary authority in a country has the power to determine margin requirements. Increase or decrease in the margin requirements changes the loan value of a security. Margin requirements are fixed differently for various types of securities. For instance, in India margin requirements for equity shares is 50 per cent of the market value and for commodities it various between 20 per cent and 75 per cent. Margin requirements therefore directly influence the demand for credit without affecting the supply of loans or the rate of interest. It is a very instrument used to control speculative activities both in the commodity market as well as money and the capital markets. For instance, the Reserve Bank of India has greatly used the instrument of margin requirement to check the hoarding of essential commodities and their price rise.

### 2. Regulation of Consumer Credit

A number of consumer durable goods such as television sets, washing machines, refrigerators, computers, furniture, cars etc are available on credit repayable in equated monthly installments. Consumer credit is regulated by the Central Bank by determining the maximum period of payment i.e. the maximum equated monthly installments and the minimum down payment. In order to check consumer credit, the Central bank may increase the minimum down payment and reduce the maximum period of payment by reducing the number of equated monthly installment.

By doing so, the Central bank not only increases the size of the initial payment which is known as the minimum down payment but also the size of the installment. Such an action by the Central bank reduces the demand for consumer credit and thus regulates it.

### 3. Issue of Directives

The Central bank may direct the Commercial Banks orally or by a written order to control the direction and volume of credit so that the credit policy followed by the commercial banks is in harmony with the monetary policy objectives of the Central bank. However, issue of directives may not be effective and hence more direct instruments of monetary policy are put into effect along with the directives.

**4. Credit Rationing**

Credit rationing is a qualitative instrument used to control and regulate the purpose for which credit is offered by the commercial banks. Credit rationing is carried out in two forms, namely; the variable portfolio ceiling and the variable capital assets ratio. The variable portfolio ceiling refers to a ceiling imposed by the Central bank on the total portfolios of the commercial banks. The ceiling is imposed to ensure that loans and advances do not exceed the given ceiling. Since the Central bank has the right to change the ceiling, it is called variable portfolio ceiling. Similarly, the Central Bank may also decide the capital assets ratio of commercial banks. These measures restrict the loans andadvances made todifferentcategories of borrowers in the economy.

**5. Moral Suasion and Publicity**

Moral suasion refers to formal persuasion and request made by the Central Bank to the commercial banks. As opposed to directives, it is an appeal made by the Central Bank to the moral consciousness of the commercial banks to operate according to the objectives of the monetary policy. For instance, the Central bank may request the commercial banks to desist from financing speculative activities. It is a psychological instrument of monetary policy. The Central bank may also exert moral pressure on the commercial banks by going public on the unhealthy banking practices. The Reserve bank of India had used moral suasion for the first time in September, 1949 by requesting the commercial banks to exercise restraint in giving advances for speculative purposes.

**6. Direct Action**

Direct action is a qualitative as well as a quantitative instrument of monetary policy. The Central Bank may stop rediscounting facility to those commercial banks whose credit policy is at divergence with its monetary policy. It may refuse to give more credit to banks where borrowings are in excess of their capital and reserves. It may charge a higher rate of interest for the credit demanded by commercial banks beyond a certain limit.

## 3.4 LIMITATIONS OF MONETARY POLICY

The limitations in monetary policy arise on account of the difficulties encountered in pursuing the policy objectives in less developed countries and on account of the inherent contradictions in the macro-economic objectives as discussed earlier. The monetary policy over the years has revealed the following limitations.

**1. Limited in Scope:**

Macro-economic policy objectives cannot be tackled and achieved only with the help of the instruments of monetary policy. For instance, monetary policy has practically failed in India to achieve both the objectives of price

stability and exchange rate stability. Inflation rate had been as high as 25.2 per cent in 1974- 75. Even in the first half of the nineties, the rate of inflation had been in double digits. While the instruments of monetary policy may influence the aggregate demand the economy, the failure in supply management will negate the very purpose of monetary policy. Thus a combination of policies: monetary, fiscal, exchange rate and income are needed to attack inflation.

**2. Preference for Currency Money over Bank Money**

In under developed economies like India, people generally prefer currency money to bank money. Preferences for currency money is on account of lack of banking development, ignorance about the banking procedures and practices and wide spread illiteracy in the country. Thus an expansionary money policy by way of a cut in the legal reserve requirements may not be able to realize the desired expansion in money supply. For instance a fifty percent reduction in the legal requirements would enhance the money supply by more than 100 per cent provided people do not withdraw their deposits from the banks. The actual increase in money supply will be reduced by the extent of deposit withdrawals. Let us take an example. Let us assume that the excess reserve with the commercial banks is 900 Billion and the cash reserve ratio is 10 percent. The credit generated would be 900 Billion × 100 ~ 10 = 9000 Billion. Now if the cash reserve ratio is reduced to five per cent, the credit expansion will be 950 Billion × 100 ~ 5 = 19000 Billion. However, if people withdraw 450 Billion from the banking system, then the expansion of credit will be 500 Billion × 100 ~ 5 = 10,000 Billion only. In under-developed economies like India, a major portion of the money supply is held by the people in the form of cash and does not return to the banking system in the form of deposits. This creates a serious limitation on the ability of the banking system to create fresh credits on the basis of an increase in its reserves.

**3. Money Market Dualism**

A contractionary monetary policy implemented by using monetary policy instruments such as the bank rate, the cash reserve ratio and open market operations may not have the desired effect if the money market is not well developed or fully integrated. While the organized money market consisting of the commercial banks, foreign banks, co-operative banks, finance corporations etc may operate according to the policy objectives of the Central bank, unorganized sector consisting of the unregulated non-banking financial intermediaries, indigenous bankers and money lenders have no connection with the organized sector and are legally unbound to follow the monetary policy of the Central Bank. Further, when the sub-markets of the money market like the treasury and the commercial bill market are not well developed, there will be little possibility of being completely successful in realizing the monetary policy objectives.

### 4. Parallel Economy

When a monetary transaction is not officially recorded or reported it is known to be a black or an illegal transaction. In underdeveloped economies, the size and scale of such black transactions is enormous. For instance, the black or the parallel economy in India is estimated to be more than 50 per cent of India's national income. Dr. Suraj Gupta of the Delhi School of Economics conducted a study on the generation of black income and fond that black income was 41, 45 and 50 percent of the GDP at factor cost at current prices in the years 1980-81, 1983-84 and 1987-88. In 1994-95, the Parliament Standing Committee estimated black money of the order of 130 percent of the GNP estimate in India. The black money in circulation was estimated to be `.11 Trillion whereas the official GNP estimate was `.8.43 Trillion. Under such circumstances, the monetary policy instruments can best be described as ineffective tools of monetary management.

### 5. Lack of Independence and Autonomy of the Central Bank

A Central Bank which is subservient to the policies of the government and does not have the required autonomy and independence to decide its monetary policy in accordance with the national economic interests cannot imagine achieving its own policy objectives. For instance, the Federal Reserve Bank which is the Central Bank of the United States functions as a fully autonomous and independent government agency. It is directly responsible to the government of the United States. However, in the event of any conflict between her views and those that of the government, the Fed always acts in the economic interest of the nation or in the public interest. This is because the decisions made by the governors of the Fed are totally independent and cannot be influenced from outside. Historical studies have proved that an independent Central bank is more successful in controlling inflation and thereby protecting the value of a nation's currency than those Central banks who are controlled by the executive branch of the government. The Reserve Bank of India is not autonomous enough to pursue an independent momentary policy. For instance, the expansion in money supply in order to meet government's deficit has always generated inflationary pressures in the Indian economy and the government of India has not allowed the Reserve bank of India to control inflation because it felt that such an action would reduce the rate of growth of the economy. Interest rate administration and the supply of credit to the different sectors of the economy had often been determined by the policy of the government than the policies of Reserve bank of India. However, systemic limitations such as the primacy of government policy over the monetary policy may vanish once the process of converting the economy into a free market economy is complete and the economy becomes more advanced and integrated. Monetary policy can only be more effective in a free market economy.

### 6. Less Effective in Controlling Booms and Recessions

When the economy is booming with progressively higher rates of investment, employment, output, income, demand and prices, monetary

policy may not be very effective in controlling high inflation rates particularly when the rate of return on capital is much higher than the prevailing interest rates. It will be quite a while before high interest rates starts affecting investment demand and prices. It will be only in the longer run that relatively less efficient firms starts withdrawing their investments, thus reducing employment, income, demand and prices. Similarly, during the period of depression, when the rate of return on investment is either uncertain or negligibly low, investment demand will not pick up even if the money supply is increased and interest rates are lowered. In fact fiscal policy is more effective in pulling an economy out of depression.

**7. Lack of Control on the General Liquidity in the Economy**

Reduction in money supply and higher interest rates are not effective enough to reduce the aggregate demand in the economy and therefore prices because the capacity to spend is not only determined by the money supply but also the liquidity position of individuals and firms. The general liquidity position is determined by factors such as cash balances, bank balance, time and saving deposits, financial assets and the possibilities of borrowing. Thus, a more effective way of controlling prices would be controlling the general liquidity in the economy.

## 3.5 ROLE OF MONETARY POLICY IN DEVELOPING ECONOMIES

The monetary policy in a developing economy will have to be quite different from that of a developed economy mainly due to different economic conditions and requirements of the two types of economies.

A developed country may adopt full employment or price stabilization or exchange stability as a goal of the monetary policy.

But in a developing or underdeveloped country, economic growth is the primary and basic necessity. Thus, in a developing economy the monetary policy should aim at promoting economic growth, the monetary authority of a developing economy can play a vital role by adopting such a monetary policy which creates conditions necessary for rapid economic growth. Monetary policy can serve the following developmen-tal requirements of developing economies.

**1. Developmental Role:**

In a developing economy, the monetary policy can play a significant role in accelerating economic development by influencing the supply and uses of credit, controlling inflation, and maintaining balance of payment.

Once development gains momentum, effective monetary policy can help in meeting the requirements of expanding trade and population by providing elastic supply of credit.

**2. Creation and Expansion of Financial Institutions:**

The primary aim of the monetary policy in a developing economy must be to improve its currency and credit system. More banks and financial institutions should be set up, particularly in those areas which lack these facilities.

The extension of commercial banks and setting up of other financial institutions like saving banks, cooperative saving societies, mutual societies, etc. will help in increasing credit facilities, mobilising voluntary savings of the people, and channelising them into productive uses.

It is also the responsibility of the monetary authority to ensure that the funds of the institutions are diverted into priority sectors or industries as per requirements of are development plan of the country.

**3. Effective Central Banking:**

To meet the developmental needs the central bank of an underdeveloped country must function effectively to control and regulate the volume of credit through various monetary instruments, like bank rate, open market operations, cash-reserve ratio etc.

Greater and more effective credit controls will influence the allocation of resources by diverting savings from speculative and unproductive activities to productive uses.

**4. Integration of Organised and Unorganised Money Market:**

Most underdeveloped countries are characterized by dual monetary system in which a small but highly organised money market on the the one hand and large but unorganised money market on the other hand operate simultaneously.

The unorganised money market remains outside the control of the central bank. By adopting effective measures, the monetary authority should integrate the unorganised and organised sect ors of the money market.

**5. Developing Banking Habits:**

The monetary authority of a less developed country should take ap-propriate measures to increase the proportion of bank money in the total money supply of the country. This requires increase in the bank deposits by developing the banking habits of the people and popularising the use of credit instruments (e.g, cheques, drafts, etc.).

**6. Monetisation of Economy:**

An underdeveloped country is also marked by the existence of large non-monetised sector. In this sector, all transactions are made through barter system and changes in money supply and the rate of interest do not influence the economic activity at all. The monetary authority should take measures to monetise this non-monetised sector and bring it under its control.

**7. Integrated Interest Rate Structure:**

In an underdeveloped economy, there is absence of an integrated interest rate structure. There is wide disparity of interest rates prevailing in the different sectors of the economy and these rates do not respond to the changes in the bank rate, thus making the monetary policy ineffective.

The monetary authority should take effective steps to integrate the interest rate structure of the economy. Moreover, a suitable interest rate structure should be developed which not only encourages savings and investment in the country but also discourages speculative and unproductive loans.

**8. Debt Management:**

Debt management is another function of monetary policy in a developing country. Debt management aims at (a) deciding proper timing and issuing of government bonds, (b) stabilising their prices, and (c) minimising the cost of servicing public debt.

The monetary authority should conduct the debt management in such a manner that conditions are created "in which public borrowing can increase from year to year and on a big scale without giving any jolt to the system.And this must be on cheap rates to keep the burden of the debt low."However, the success of debt management requires the existence of a well- developed money and capital market along with a variety of short-term and long-term securities.

**9. Maintaining Equilibrium in Balance of Payments:**

The monetary policy in a developing economy should also solve the problem of adverse balance of payments. Such a problem generally arises in the initial stages of economic development when the import of machinery, raw material, etc., increase considerably, but the export may not increase to the same extent.

The monetary authority should adopt direct foreign exchange controls and other measures to correct the adverse balance of payments.

**10. Controlling Inflationary Pressures:**

Developing economies are highly sensitive to inflationary pres-sures. Large expenditures on developmental schemes increase aggregate demand. But, output of consumer's goods does not increase in the same proportion. This leads to inflationary rise in prices.

Thus, the monetary policy in a developing economy should serve to control inflationary tendencies by increasing savings by the people, checking expansion of credit by the banking system, and discouraging deficit financing by the government.

**11. Long-Term Loans for Industrial Development:**

Monetary policy can promote industrial development in the underdeveloped countries by promoting facilities of medium-term and

long-term loans to the manufac-turing units. The monetary authority should induce these banks to grant long-term loans to the industrial units by providing rediscounting facilities. Other development financial institutions also provide long-term produc-tive loans.

**12. Reforming Rural Credit System:**

Rural credit system is defective and rural credit facilities are deficient in the underdeveloped countries. Small cultivators are poor, have no finance of their own, and are largely dependent on loans from village money lenders and traders who generally exploit the helplessness, ignorance and necessity of these poor borrowers. The monetary authority can play an important role in providing both short-term and long term credit to the small arrangements, such as the establishment of cooperative credit societies, agricultural banks etc.

## 3.6 SUMMARY

1. Monetary policy can be defined as a policy of the Central Bank that seeks to influence the cost and availability of credit in an economy.

2. The broad and general objectives of monetary policy are economic growth, full employment, price stability, exchange rate stability and equilibrium in the balance of payments.

3. The instruments of monetary policy available at the disposal of the Central Bank can be classified into general or quantitative instruments and selective or qualitative instruments.

4. The general instruments consist of the bank rate policy, open market operations and cash reserve ratio. The selective instruments of monetary policy are used to regulate the use of credit and hence they are sectoral in impact.

5. The selective instruments consist of margin requirements, regulation of consumer credit, use of directives, credit rationing, moral suasion and publicity and direct action.

6. The limitations in monetary policy arise on account of the difficulties encountered in pursuing the policy objectives in less developed countries and on account of the inherent contradictions in the macro-economic objectives.

## 3.7 QUESTIONS

1. Explain the meaning and objectives of monetary policy.
2. Explain the quantitative instruments of monetary policy.
3. Explain the qualitative or selective instruments of monetary policy.
4. Explain the limitations of monetary policy.

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# 4

# FISCAL POLICY

**Unit Structure:**



## 4.0 OBJECTIVES

- To understand the meaning of Fiscal Policy.
- To see the objectives of Fiscal Policy.
- To study the instruments of Fiscal Policy.
- To see the limitations of Fiscal Policy.
- To know the role of Fiscal Policy in Developing Economies.

## 4.1 INTRODUCTION

**The word 'Fiscal' is derived from the Greek word 'fisc' meaning basket.** The word 'fisc' was used to denote the income and expenditure operations of the government while the income generating operations relate to taxation and government borrowing, the expenditur4e operations relates to government spending. The income of the government from various sources is called public revenue. It includes income from taxes: both direct and indirect. Direct taxes include personal income tax, corporation tax, wealth and gift taxes. Indirect taxes include custom duties, excise duties and sales tax. Taxes constitute the bulk of government incomes.

Other sources include profits generated by public sector enterprises, fines, fees, gifts and grants. Other sources are referred to as non-tax revenue of the government. Similarly, the government makes expenditure on various activities which includes social and community services, economic services, general services. It is referred to as public expenditure. Broadly speaking, public expenditure and public revenue constitutes the tools of fiscal policy which are at the disposal of the government to pursue its macro-economic goals.

Fiscal policy is the part of government policy that deals with raising revenue through tax and non-tax sources and deciding on the level and pattern of public expenditure.

Fiscal policy is composed of several parts. These include, tax policy, public expenditure policy, investment or disinvestment strategies and debt or surplus management. Fiscal policy is an important constitution of the overall economic framework of a country and is a therefore intimately linked with its general economic policy strategy. In most modern economics, governments deal with fiscal policy while the central bank is responsible for monetary policy.

These measures included social security expenditures and following counter cyclical budgetary policy to keep aggregate demand high.

In developing countries, besides traditional functions, governments also promote economic development. In developing economies, fiscal policy is used as an important instrument to bring about creation of economic and social infrastructure, employment generation, poverty reduction and improvement in income distribution.

## 4.2 MEANING OF FISCAL POLICY

Fiscal policy can be explained as a policy executed by the government to produce desirable effects on national income output and employment.

**Prof. Ursula Hicks says that "fiscal policy is concerned with the manner in which the different elements of public finance may collectively be geared to forward the aim of economic policy."** Thus for Prof. Hicks, the objective of fiscal policy is to achieve the aim of economic policy or in other words, the macroeconomic goals of economic growth, full employment and price stability.

These macroeconomic goals are more precisely brought out by the explanation given by **Prof. Paul Samuelson and Prof. William Nordhaus.** According to them, fiscal policy serves two major economic functions, namely: (1) it sets national priorities, allocates national output among private and public consumption and investment, and (2) it provides incentives to increase or decrease output in the particular sectors of the economy. It is through the government budget that the fiscal policy influences the major macroeconomic goals.

Thus, Paul and Williams define fiscal policy as **"the setting of taxes and public expenditures to help dampen the swings of business cycle and contribute to the maintenance of a growing high employment economy, free from high or volatile inflation."** This definition clearly brings out the objectives of fiscal policy. When income and expenditure as the two broad instruments of fiscal policy are used to dampen the swings of business cycle, you are trying to achieve the goal of price stability or economic stability. The goals of high employment rather than full employment which are more realistic and sustained economic growth are explicit and obvious in the definition. The governments use

budgets to plan and control their fiscal affairs. The budget shows the planned expenditure of government programs and the expected revenues from the tax systems. A budget surplus occurs when government income or public revenue is greater than public expenditure. However, surplus budget has become a thing of the past given the macroeconomic goals of a modern State. A budget deficit occurs when public expenditure is greater than income.

A deficit budget has become a characteristic feature of fiscal policy of all modern governments. A balanced budget occurs when public expenditure is equal to public revenue which is a rare possibility. When the government has a deficit budget, it means, it is borrowing from the public by issuing bonds which are repayable on maturity in future. The government borrowing known as public debt consists of total or accumulated borrowings by the government. It is the money value of government bonds owned by the public, households, banks, businesses, foreigners and other non-government institutions. In the Indian context, when the government borrowing programs fails to meets its targets, the Reserve Bank of India simply prints more notes and fills the gap between actual borrowing and desired borrowing which is known as monetized deficit. Here precisely, monetized deficit is the increase in the net RBI credit to the Government of India. It consists of the net increase in the holdings of treasury bills of the Reserve bank and its contribution to the market borrowings of the government. It thus indicates the amount of fiscal deficit that is monetized. Monetized deficit leads to increase in money supply and inflation.

## 4.3 OBJECTIVES OF FISCAL POLICY

The fiscal policy is formulated with specific objectives in view. The objective in developed countries is to achieve economic stability and maintain high aggregate demand.

In developing countries the goal is to achieve economic growth and development.

**Following are some of the objectives of fiscal policy**

**1. Optimum Allocation of Resources:**

The most important function of fiscal policy is to determine how the country's resources will be allocated. What should be the share of different sectors of the economy in terms of resource allocation? This is closely related to the government's taxation and expenditure policies. Allocation of resources depends upon the collection of taxes and size and composition of government expenditure. The national budget determines how funds are allocated to different heads of expenses. The policy of public expenditure is used by the government to directly undertake resource allocation for different sectors. On the other hand, the government can use taxation and subsides to indirectly influence resource allocation. For example, tax incentives given to SEZ units will encourage investors to direct resources to those units.

**2. Full Employment:**

The importance of fiscal policy as an economic tool gained significance during the Great Depression in 1930s when the developed countries were suffering from unemployment. Thus the main objective of fiscal policy was defined as achievement of full employment. For this the fiscal policy should be designed to keep the level of aggregate demand high. In developing economies government expenditure on social and economic infrastructure is used to generate employment opportunities.

**3. Economic Stability:**

Stabilization of the economy is another important function of fiscal policy, especially in developed economies that experience business cycles. The cycle nature of the market in these economies causes fluctuations in variables like income, output, investment and employment causing hardships to the people. When growth periods end, they are followed by contraction in the form of recession. Fiscal policy is meant to counter these fluctuations. This known as counter cyclical fiscal policy. A counter cyclical fiscal policy is adopted to counter the effects of recession and depression by following a deficit budget. This brings about an increase in government expenditure to generate employment and decrease in taxes to induce consumption and investment. On the other hand, during inflation, government expenditure and tax rates are lowered to reduce aggregate demand and prices. A surplus budget is followed.

**4. Increasing the Rate of Investment and Capital Formation:**

In developing countries the problem of mass and structural unemployment. Fiscal policy in such countries is aimed at increasing the rate of capital formation through investment. This can be done by giving tax incentives and subsidies to encourage private sector investment. Also, in many developing countries the government directly takes part in capital formation through investment in social and economic infrastructure.

**5. Encouraging Socially Optimum Pattern of Investment:**

In developing countries fiscal policy can direct investment in those fields that are most desirable from social point of view. For example, fiscal incentive to small scale industries and infrastructure development.

**6. Reducing Income Inequalities:**

Fiscal policy can be effectively used to manipulate the distribution of national income and resources. Taxation and public expenditure policies are used by the government to reduce inequalities. Progressive direct taxes impose heavier burden on the rich than the poor. Public expenditure on social infrastructure and subsidies on food, housing, health and education help reduce income inequality.

**7. Reducing Unemployment and Underemployment:**

Public expenditure can play an important role in this regard. Public works programmes can be initiated to create employment and to absorb surplus labour from areas of underemployment especially in developing countries.

**8. Controlling Inflation:**

Developing countries need to resort to deficit financing in order to finance their programmes of industrialization and infrastructure building. This creates inflationary conditions in the economy as purchasing power is bound to rise with deficit financing. In order to control inflation, the ideal fiscal response would be reduction of public expenditure. But this is unlikely to take place in a developing country and hence the fiscal response should be in the form of encouraging supply of goods and services though appropriate incentives. As supply increases, the inflationary pressure is likely to be on the decline.

## 4.4 INSTRUMENTS OF FISCAL POLICY

Fiscal policy is an effective instrument to control business fluctuations, both recession and inflation. There are two types of fiscal policy, namely: (1) discretionary fiscal policy and, (2) non-discretionary fiscal policy of automatic stabilizers. Discretionary fiscal policy refers to a deliberate and purposeful change in the government expenditure and taxes to influence the level of national income and prices by influencing the level of aggregate demand for goods and services. Non-discretionary fiscal policy of automatic stabilizers refers to a built-in tax and expenditure mechanism that increases aggregate demand when there is a recession and reduces aggregate demand when there is inflation.

### 4.4.1 Discretionary Fiscal Policy

Discretionary fiscal policy is of two types, namely: (1) Anti-recessionary fiscal policy and, (2) Anti-inflationary fiscal policy. Anti-recessionary fiscal policy is also known as expansionary fiscal policy which is used to draw the economy out of recession. Similarly, anti-inflationary fiscal policy is known as contractionary fiscal policy which is intended to control inflationary tendencies in the economy. An anti-inflationary fiscal policy calls for reduction in government expenditure and raising of taxes whereas an anti-recessionary fiscal policy calls for increase in government expenditure and reduction in taxes. In effect, the aim of fiscal policy is to influence the level of aggregate demand and prices in the economy so that the twin goals of macroeconomic management, namely: economic growth and price stability are achieved. Fiscal policy is therefore a policy of demand management. An expansionary or anti-recessionary fiscal policy would result in a deficit budget because the government expenditure will have to be more than its income or there may be a fall in government income on account of reduction in taxes. A budget deficit may because either by increase in expenditure though borrowing or by reduction in taxes and therefore tax revenue or a combination of both these factors. The opposite will be the case of a

contractionary or anti-inflationary fiscal policy whereby government expenditure will be reduced and taxes raised. As a result of the reduction in government expenditure, the budget deficit may be relatively reduced or here may be a budget surplus.

### 4.4.2 Expansionary Fiscal Policy

A fall in aggregate demand due to a fall in private investment is the cause of recession. A fall in private investment takes place because of the poor expectations of businessmen on the profitability of investments. The fall in aggregate demand creates deflationary gap in the economy which has to be filled by compensatory government expenditure or by reducing taxes. Thus, we have two methods to draw the economy out of recession, namely: (a) compensating increase in government expenditure and, (b) reduction in taxes.

**(a) Compensating Increase in Government Expenditure:**

In order to draw the economy out of recession, the government through the technique of compensatory publicspending may embark on a massive public works program constituting social and economic infrastructure. The construction of social and economic infrastructure consisting of roads, national highways, dams, canals, irrigation projects, electricity generation, schools, hospitals etc. would generate demand for capital goods and labor. This in turn, creates employment not only in the capital goods industries but also in the public works program. Additional employment will generate additional demand for consumption goods. Thus, increase in government expenditure generates demand both for capital and consumption goods. The incomes generated on account of increase in government expenditure will propagate itself through the income or the investment multiplier. The income or the investment multiplier in turn depends upon the marginal propensity to consume or the marginal propensity to save. The co-efficient of the investment multiplier is given by the formula:

$$K = \frac{1}{1 - MPC}$$

Where,

'k' stands for the multiplier co-efficient and MPC refers to the marginal propensity to consume.

As 1 – MPC = MPS, the multiplier formula can be restated as:

$$K = \frac{1}{MPS}$$

Assuming a marginal propensity to save of 20% or a marginal propensity to consume of 80%, an additional government expenditure of Rs. One Trillion will generate an income stream of Rs.5 Trillion through the income multiplier process. Substituting the numerical values mentioned above in the formula, the change in national income (ΔY) due to a change in investment (ΔI) can

be measured as follows:

$$\Delta Y = \Delta I.K$$

Where,

$$K = \frac{1}{MPS}$$

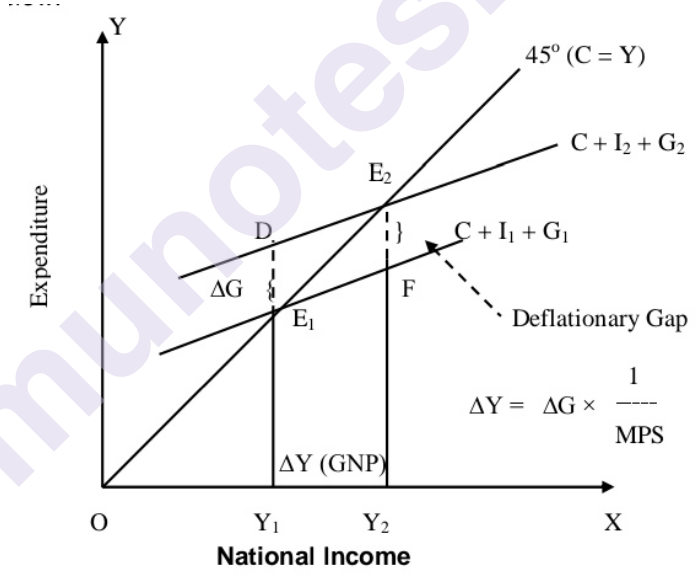
Or

$$K = \frac{1}{1 - MPC}$$

Therefore, the value of multiplier 'k' is 5. Thus ΔY = Rs.1T X 5 = Rs.5 Trillion. The size of additional government expenditure required to fill the deflationary gap will be determined by the investment multiplier 'k' and the investment multiplier in turn will be determined by the marginal propensity to save. The effect of increase in government expenditure on national income and employment can be illustrated with the help of Fig.10.1 given below.

**Figure 4.1**

**Compensatory Increase in Government Expenditure as an Example of Anti-recessionary Fiscal Policy**




Let us assume that the economy is operating at Y2 level of output and the aggregate demand curve C + I2 + G2 is intersecting the 45° line at point E2. Due to poor investment prospects, the aggregate private investment falls leading to a fall in the aggregate demand. As a result, the aggregate demand curve shifts downwards and to a lower level i.e. (C + I1 + G1) and the economy shrinks to a lower equilibrium position E1 with Y1 level of national income. The fall in national income and output will lead to open or involuntary unemployment and idle or excess production capacity in the economy. The fall in investment E2F creates a deflationary gap and the national income shrinks by $_{Y2Y1}$ via the reverse multiplier, thus creating recessionary conditions in the economy. To draw the economy out of recession, the government increases its expenditure (ΔG) by E1D,

shifting the aggregate demand curve to its original position C + I2 + G2 and national income to Y2. The increase in national income $_{Y1Y2}$ is equal to:

$$\Delta G \times \frac{1}{MPS}$$

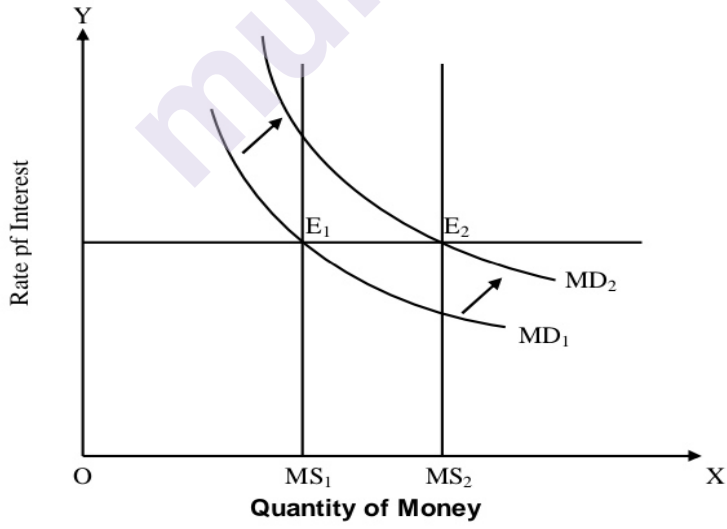
Where,

$$\frac{1}{MPS} = K$$

However, the anti-recessionary effort of the government will fully succeed only if the rate of interest does not rise. Due to increased government expenditure, income and employment will rise leading to a rightward shift in the demand for money. If the money supply remains constant, a rise in demand for money will lead to higher interest rates and fall in private investment demand. The fall in private investment demand will reduce the expansionary effect of increased government expenditure. Thus, along with an expansionary fiscal policy, moneys supply will have to be supplemented by an expansionary monetary policy to keep the interest rates constant. It only means that fiscal policy alone will not be good enough to draw the economy out of recession. The effect of increase in government expenditure on the transaction demand for money and the rate of interest and the importance of an expansionary monetary policy to supplement the governmental effort are shown in Fig.10.2 below.

**Figure 4.2**

**Expansionary monetary Policy to prevent the interest rate from rising as a result of expansionary Fiscal Policy**




It can be seen from Fig. 4.2 that the Money Demand Curve shifts towards the right as a result of rise in income and employment. Given the money supply curve MS1 and the new demand curve MD2, the rate of interest will rise. However, to keep the interest rate constant, the Central Bank must increase money supply by MS1 – MS2. As a result of increased money supply, the money demand curve MD2 intersects the money supply

curve MS2 at point E2 and the rate of interest remains the same. Thus an expansionary monetary policy supplements anti-recessionary fiscal policy and help realize the desired impact on income and employment.

### (b) Tax Reduction as an Instrument of Anti-recessionaryFiscal Policy

Expansion in income and employment can be realized in a recessionary situation by reducing the tax levels. Obviously, a reduction in taxes will increase the disposable income of the people land lead to an increase in the aggregate demand. The possible expansion in aggregate demand as a result of tax reduction depends upon two objective factors, namely: the value of tax reduction and the marginal propensity to consume. For instance, if the net result of changes in the tax structure is a loss of revenue to the government of the order of Rs. One Trillion and assuming the MPC to be 80% or that the value of MPC being 0.8, consumption demand in the economy will rise by 80,000 Crores with ..20,000 Crores as the savings made by the community. The increase in consumption demand will have a multiplier effect through the tax multiplier given by the formula:

$$\Delta T \times \frac{MPC}{1 - MPC}$$

**Or**

$$\Delta C \times \frac{1}{1 - MPC}$$

**i.e.** $\Delta T \times \frac{0.8}{1-0.08} = 1 \text{ trillion} \times 4 = 4 \text{ trillion}$

**or**

80000 crores $\times \frac{1}{1-0.8} = 80000 \text{ crores} \times 5 = 4 \text{ trillion}$

Thus, reduction in taxes will lead to increase in consumptiondemand until the tax multiplier process exhausts itself and in theprocess will also lead to increase in income and employment.However, you will notice that the expansionary effect of a policy oftax reduction is less than that of a policy of budget deficit. In ouearlier example, the value of investment multiplier was 5 with MPC being 0.8, whereas the tax multiplier is only 4 with the same MPC.

### Conclusion

It is obvious from the foregoing discussion that a policy of tax reduction has a relatively less expansionary effect on income and employment than that of a policy of increase in government expenditure. Further, to obtain an identical effect on income and employment by a policy of tax reduction, the budget deficit will have to be proportionately higher than in the case of increase in government expenditure. For instance, to bring about an identical expansion in income and employment by way of tax reduction, the community's disposable income will have to be increased by Rs.1.25 Trillion (1.25 T × 4 = 5 T). The

budget deficit thus will be larger in case of adopting a policy of tax reduction. However, the choice between the two is not all that easy. It depends upon the relative efficiencies of the two multipliers. If it is viewed that public works programs re relatively less efficient and that there will be leakage in the governmentinitiated programs, the value of the investment multiplier will be reduced by the extent of leakages and the delays in the execution of public works. In that case, a policy of tax reduction will be advisable. However, real life economics is part politics and part economics and hence the choice between the two will depend upon politico-economic expediency. If political expediency assumes primacy over economic expediency, government spending will be increased because the direct beneficiaries of increased government expenditure are the poor and the unemployed whereas the direct beneficiaries of tax reduction are the classes above the middle which of course in a developing country is relatively smaller in size.

**2. Anti-inflationary or Contractionary Fiscal Policy**

Inflation or price rise is the result of a persistent excess aggregate demand over aggregate supply in the economy. The rise in aggregate demand beyond the capability of the economy during a given time to offer a matching aggregate supply would result in price rise. The capability of the economy is the productive capacity with the availability of the given productive resources. If the rise in aggregate demand is on account of a large budget deficit financed by borrowing from the Central Bank, there will be an increase in money supply and prices would rise. Thus, along with rise in aggregate demand, a rise in money supply would also cause the generation of inflationary forces. On account of excess aggregate demand, inflationary gap will be created which if not vacated or neutralized, prices will being to rise. The fiscal policy instruments to control inflation are: (a) reduction in government expenditure and (b) increase in taxes. Reduction in government expenditure by way of reduction in the budget deficit and or by increasing the taxes, the level of aggregate demand can be brought down. The process of decrease in government expenditure and its impact on the level of aggregate demand is shown in Fig.8.3. The figure shows that the aggregate demand curve C + I + G1 intersect the $45^o$ line or the line of unity ( C = Y) at point 'E1' and determines equilibrium national income and output at point Y1 which is the potential productive capacity of the economy during the given time period. Beyond this point if the aggregate demand rises on account of increase in government expenditure, financed by a budget deficit, the aggregate demand curve will intersect the line of unity at point E2. The new aggregate demand curve C + I + G2 will determine Y2 level of income which is greater than the productive capacity of the economy determined at point Y1..Thus excess aggregate demand over aggregate supply by the amount E1A shown in the figure generates an inflationary pressure causing the prices to rise. Such a price rise or inflation is also known as Demand-pull Inflation.

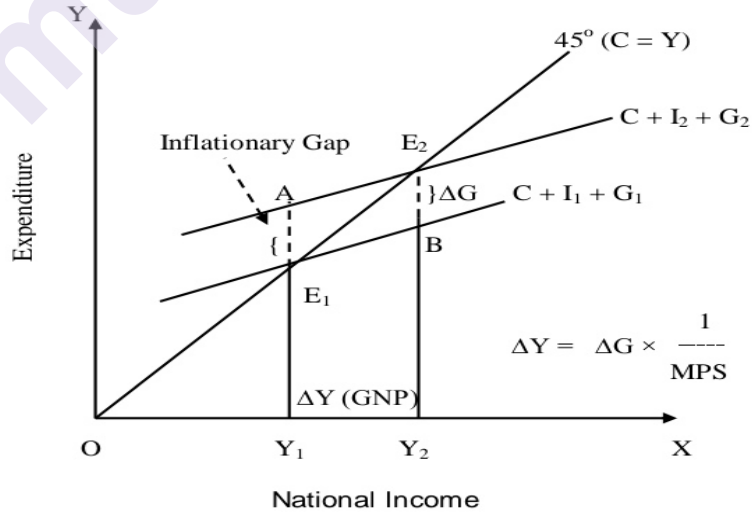
The inflationary gap can be vacated or neutralized by a decrease in the level of aggregate demand. The level of aggregate demand can be reduced by a contractionary fiscal policy using the fiscal policy instruments of reduced government expenditure and increase in taxes. With equilibrium at point E2

and money income being $OY^2$, if the government reduces expenditure by E2 which is equal to the inflationary gap E1A, the aggregate demand curve C + I + G2 will shift downward and once again the original equilibrium level of aggregate demand C + I + G1 and Y1 level of national income corresponding to the productive capacity of the economy will be established. You will notice that the fall in the nominal national income $_{Y2Y1}$ is much greater than the fall in government expenditure E2B. This is on account of the operation of reverse income or the investment multiplier.

Alternatively, the government can also bring about an increase in the direct taxes and reduce the disposable income of the community to bring down the level of aggregate demand and prices to their desired level. In the event that the government has a balanced budget and the economy experiences inflationary tendencies, it would mean that there are supply bottlenecks creating a shortfall in supply relative to demand. In such a situation, an anti-inflationary or contractionary fiscal policy by way of reduction in government expenditure will create a budget surplus. The government can vacate the budget surplus either by reducing or by impounding public debt. However, if the bduge5t surplus is vacated by reducing public debt, the money supply will increase and thus dampen the anti-inflationary impact of a contractionary fiscal policy. The best way to realize the full impact of a contractionary fiscal policy in the event of la budget surplus is to keep the surplus idle so that money supply does not increaseand dampen the deflationary impact of an anti-inflationary fiscal policy.

**Figure 4.3**

**Anti-inflationary Impact of a Contractionary Fiscal Policy (Reduction in Government Expenditure)**




**Non-discretionary Fiscal Policy (Automatic Stabilizers):**

The non-discretionary fiscal policy of automatic stabilizers is a built-in tax and expenditure mechanism that increases aggregate demand when there is

recession and reduces aggregate demand in the event of inflation in the economy. Thus the tax structure and the expenditure pattern vary automatically with the changes in national income and help to maintain economic stability. The fiscal measures of non-discretionary fiscal policy are hence called built-in or automatic stabilizers.

The automatic fiscal stabilizing instruments are personal income tax, corporate income tax, transfer payments and corporate dividends.

### 1. Personal Income Tax and Corporate Income Tax

The personal income tax is structured in such a manner that a direct relationship is established between tax revenue and the level of income. Further, personal income tax is progressive in nature i.e. people in the higher income brackets pay higher rates of tax. For instance, personal income tax ranges between 10% minimum and 30% maximum in India. Individuals with income above Rs.1.5 lakh but less than Rs.2.5 lakhs, the income tax rate is 10%. BetweenRs.2.5 lakhs and Rs. Five lakhs, the income tax rate is 20% and above Rs. Five lakhs, the marginal or the highest rate of income tax i.e. 30% is applicable. With rise in national income and consequent rise in personal incomes, the people will have to pay a larger percentage of their incomes in the form of income tax which reduces disposable incomes. Personal income tax therefore automatically reduces the consumption demand and hence the aggregate demand. The fall in aggregate demand checks the inflationary tendencies in the economy. The reverse happens in the case of fall in national income on account of recession when the decline in the disposable income of the people is less than proportionate to the fall in national income. However, the utility and efficiency of personal income tax as an automatic stabilizer particularly in the expansionary phase of a business cycle largely depends upon the honesty of the tax payers. Similarly, taxes on corporate or company incomes are also levied. However, in India, a flat rate of 30% corporation tax is levied unlike personal income tax which is progressive in nature. Nonetheless, the impact of corporation tax as a built-in automatic stabilizer of business cycle would be the same as that of personal income tax.

### 2. Transfer Payments

Transfer payment is a fiscal instrument which redistributes income in favor of the poor. For instance, unemployment allowance, subsidies on food and inputs, and other welfare orientedprograms such as free housing for the homeless etc increase the level of aggregate demand during a recession and thus reduce the impact of recession on income and employment. Similarly, during the prosperity phase, the quantum of transfer payments re reduced, thus reducing the level of aggregate demand and inflationary tendencies.

### 3. Corporate Dividends

The Corporate Sector follows a stable dividend policy through the business cycles. Hence, consumption expenditure on account of dividend receipts remains more or less table at all times. During a recession, people who receive dividends on their equity investments will have the same consumption expenditure as in the case of an economic boom. Thus dividend earners will be spending relatively more during a recession and less during the prosperity phase. A stable dividend policy therefore has la mitigating effect on both inflation and recession.

**Conclusion**

To conclude with this section on discretionary and non-discretionary fiscal policy, it must be stated that the success of la non-discretionary fiscal policy of automatic stabilizers is contingent upon a number of uncontrollable variables such as tax compliance, honest declaration of incomes, a stable dividend policy and more or less transparent economic system. For instance, the parallel economy in India is conservatively estimated about fifty per cent of the national income and hence it will be difficult to say that non-discretionary fiscal policy will have any significant role in controlling business cycles. By all means, the discretionary fiscal policy will have a direct and all pervasive impact on the economy and therefore it is found to be more effective in controlling business fluctuations.

## 4.5 LIMITATIONS OF FISCAL POLICY

The effectiveness of fiscal policy is subject to the following limitations:

**1. Practical Difficulties:**

Theoretically, the outcomes of fiscal policy are based on certain assumptions. However, real macroeconomic situations are far more complex. Certain assumptions made in theory may not be present in reality making fiscal policy ineffective. For example, during inflation, taxes are raised and public expenditure is lowered. This measures would only be effective in controlling inflation, if money supply in the economy is not increased by government's deficit financing. Also, fiscal policy must be complementary to monetary policy.

**2. Forecasting Difficulties:**

Reliable forecasting of target variables is a very important factor in the success of fiscal measures. These variables include national income, output, price level, employment, consumption and investment. Forecasting is a function of data collection and analysis which is difficult in developing economies. Even in developed economies, forecasting has not been foolproof.

**3. Multiplier:**

The efforts of fiscal measures are transmitted to the economy through the working of various multipliers like, investment multiplier, tax multipier. For example, the effect of an induced government investment on infrastructure will lead to an increase in income and consumption through the multipier process. The exact impact of such an investment would depend on the investment multiplier coefficient. Firstly, it is difficult to estimate the values of the multiplier coefficients due to leakages and uncertainties. Secondly, there are time lags in the working of the multipliers. It may happen that by the time the full impact of a fiscal decision is felt on the economy, economic conditions may have changed in such a way that it requires another contrary fiscal decision than the previous one. For example, the government may decide to increase expenditure in order to boost economic growth. This can lead to rise in fiscal deficit. By the time economic growth is revived, the fiscal deficit may have growth so large as to force the government cut down on capital and revenue expenditure, once again affecting growth.

**4. Time Lags:**

These lags exist in case of discretionary fiscal policy which are deliberate measures taken by the government. It takes time for the government to recognize a problem and then decide to implement a suitable policy to address the problem. These are inside lags. The outside lag is in the form of time taken for the impact of the policy to be felt. These lags reduce the effectiveness of fiscal policy.

**5. Underdeveloped Economies:**

Fiscal measures, as well as monetary policy measures, are not very effective in underdeveloped economies due factors like, low taxable capacity, large unorganized and non-monetised financial system, low-income levels and corruption.

**6. Political Influence:**

While monetary policy is under the central bank's control, fiscal policy is implemented by the government. The central bank is an autonomous institution, relatively free from political influence. This is not true of the fiscal policy. The democratic governments often mix politics with economics in their budget decisions. This limits the effectiveness of fiscal policy. For example, during election years, the government may increase subsidies and other expenditures to gain public support. This can increase fiscal deficit and cause harm to the economy in the long run. Thus, short run political gains can compromise log run economic goals of fiscal policy.

## 4.6 ROLE OF FISCAL POLICY IN DEVELOPING ECONOMIES

The fiscal policy in developing countries should apparently be conducive to rapid economic development. In a poor country, fiscal policy can no longer remain a compensatory fiscal policy. It has a tough role to play in a developing economy and has to face the problem of growth-cum-stability.

The main goal of fiscal policy in a newly developing economy is the promotion of the highest possible rate of capital formation. Underdeveloped countries are encompassed by vicious circle of poverty on account of capital deficiency; in order to break this vicious circle, a balanced growth is needed. It needs accelerated rate of capital formation.

Since private capital is generally shy in these countries, the government has to fill up the lacuna. A mounting public expenditure is also required in building social overhead capital. To accelerate the rate of capital formation, the fiscal policy has to be designed to raise the level of aggregate savings and to reduce the actual and potential consumption of the people.

Another objective of fiscal policy, in a poor country is to divert existing resources from unproductive to productive and socially more desirable uses. Hence, fiscal policy must be blended with planning for development.

An important aim of fiscal policy in a developing economy is to create an equitable distribution of income and wealth in the society. Here, however, a difficulty arises. The aims of rapid growth and attainment of equality in income are two paradoxical goals because growth needs more savings and equitable distribution causes reduction of aggregate savings as the propensity to save of the richer section is always high and that of the poor income group low.

As such, if high economic growth is the objective, the question arises as to what extent inequalities should be reduced. Of course, many a time, under the goal of socialism, the government unduly resorts to reduction of inequalities at the cost of growth which may lead to the distribution of poverty rather than prosperity. A reconciliation of these two contradictory goals of growth and reduction of inequalities can definitely bring forth better results.

Furthermore, fiscal policy in a poor country has an additional role of protecting the economy from high inflation domestically and unhealthy developments abroad. Though inflation to some extent is inevitable in the process of growth, fiscal measures must be designed to curb inflationary forces. Relative price stability constitutes an important objective.

The approach to fiscal policy in an economy which is developing must be aggregative as well as segmental. The former may lead to overall economic expansion and reduce the general pressure of unemployment; but due to the existence of bottlenecks though general price stability may be maintained, sectoral price rise may inevitably be found.

These sectoral imbalances are to be corrected by appropriate segmental fiscal measures which would remove frictions and immobility's turn demands into proper directions, seek to eliminate bottlenecks and other obstacles to growth.

## 4.7 SUMMARY

1. Fiscal policy can be explained as a policy executed by the government to produce desirable effects on national income output and employment.

2. The macro-economic goals of fiscal policy of all modern countries therefore can be stated as high employment, economic growth, economic stability land social justice and equity.

3. Fiscal policy is an effective instrument to control business fluctuations, both recession and inflation. There are two types of fiscal policy, namely: (1) discretionary fiscal policy and, (2) non-discretionary fiscal policy of automatic stabilizers.

4. Discretionary fiscal policy is of two types, namely: (1) Anti-recessionary fiscal policy and, (2) Anti-inflationary fiscal policy. Anti-recessionary fiscal policy is also known as expansionary fiscal policy which is used to draw the economy out of recession. Similarly, anti-inflationary fiscal policy is known as contractionary fiscal policy which is intended to control inflationary tendencies in the economy.

5. The fiscal measures of non-discretionary fiscal policy are hence called built-in or automatic stabilizers. The automatic fiscal stabilizing instruments are personal income tax, corporate income tax, transfer payments and corporate dividends.

## 4.8 QUESTIONS

1. What is fiscal policy? Explain the objectives of fiscal policy.

2. Explain in detail the impact of an expansionary fiscal policy on national income as a tool of discretionary fiscal policy.

3. Explain non-discretionary fiscal policy of automatic stabilizers.

# Module – III

# 5

# IS CURVE

**Unit Structure:**



## 5.0 OBJECTIVES

- To study IS-LM Model of Integration of Commodity and Money Market.
- To understand the derivation of IS Curve and shift in IS Curve.
- To study the equilibrium in Goods Market.

## 5.1 IS-LM MODEL OF INTEGRATION OF COMMODITY AND MONEY MARKET

The goods and the money markets are interlinked by two economic variables, namely: interest rate and national income. In this model, interest rate is introduced in the goods market through investment demand. The goods market therefore has two variables – interest rate (i) and national income (GDP). The goods market equation is known as the IS curve. The IS curve represents equality between saving (S) and investment (I) and all points on the IS curve show goods market equilibrium at different levels of interest and national income. The money market equilibrium is determined by the demand for and supply of money at various levels of interest and national income. The demand for money is a function of income and interest rate. The supply of money is determined by the Central Bank (the RBI in India or the Federal Reserve in the USA). The money market equation is known as the LM curve. The LM curve represents equilibrium between demand and supply of money at various levels of interest rates and national income. Various points on the LM curve shows equality between demand for money (L) and supply of money (M).

The IS-LM model shows how the equilibrium levels of income and interest rates are simultaneously determined by the simultaneous equilibrium in the two interdependent goods and money markets. Hicks, Hansen and Johnson put forward the IS-LM model on the basis of Keynesian framework of national income determination in which investment, national income, rate of interest, demand for and supply of money are interrelated and inter–dependent. These variables are represented by two curves, namely; the IS and the LM curves.

## 5.2 THE GOODS MARKET AND THE IS CURVE

**The goods market equilibrium is given by the IS schedule, which shows the combinations of interest rates and level of output.** The goods market is in equilibrium when the supply of output is equal to aggregate demand or when investment is equal in symbols,

**Y = AD**

**I = S**

The set of equation for equilibrium income in the Keynesian Three Sector Model is given as below.

**Y = AD** _____ (1)

Where, Y = Income/output

AD = Aggregate Demand

In Three Sector Model,

**AD = C+I+G**

**Y=C+I+G** _____ **(2)**

**C = C + cYd**

Where,

C = Autonomous Consumption (It is that level of consumption when level of income is Zero)

C = Marginal propensity to Consume (MPC: It is the ratio of change in consumption to change in income)

Yd = Disposable income (e.g. unemployment allowance) TR is assumed to be constant.

The terms IS and LM are shorthand representations, respectively, of the relationship investment (I) equals savings (S) – goods market equilibrium – and money demand (L) equals money supply (M), or money market equilibrium. The Classical article that introduced is J.R. Hicks, "Mr. Keynes and the Classical: A Suggested Interpretations. "Econometrical, 1937, pp. 147-159

**TR = TR**

**T=tY**

T = Amount of tax defined as

T = Tax Rate

$$\therefore C = \overline{C} + c\ Y - tY + \overline{TR}$$

In Keynesian Model, I or Investment and G government demand for goods is assumed to be constant.

i.e.

$$I = \overline{I}$$

$$G = \overline{G}$$

Here the

$$AD = \overline{C} + c\ Y - tY + \overline{TR} + \overline{I} + \overline{G}$$

$$= \overline{C} + cY - ctY + c\overline{TR} + \overline{I} + \overline{G}$$

$$= \overline{C} + c\overline{TR} + \overline{I} + \overline{G} + c\ \ 1 - \text{t Y}$$

$$\text{Define } \overline{A} = \overline{C} + c\overline{TR} + \overline{I} + \overline{G}$$

At equilibrium,

$$Y = \overline{A} + c\ \ 1 - \text{t Y} \quad \text{\_\_\_\_\_} \textbf{(3)}$$

Where c = MPC

t = tax Rate

Now define, C =$_C$ 1 - t

$$Y = \overline{A} + cY$$

In the above model, Investment Demand 'I' have treated as constant factor.

We now introduced interest rate as a variable in the model and define Investment Demand as a inverse function of Rate of Interest.

$$I = \overline{I} - bi \quad \text{\_\_\_\_\_} \textbf{(4)}$$

Where,

$\overline{I}$ = constant component of Investment Demand

i = rate of Interest

-b = r responsive of investment demand to change in interest rate, b>0

The negative sign indicate that when interest rate rises, investment demand falls and vice-versa. Hence equation nos. 3 is written as

$$Y = \overline{A} + c\ \ 1 - \text{t}\ \ \text{Y - bi} \quad \text{\_\_\_\_\_} \textbf{(5)}$$

The Keynesian model in the three sectors economy can be derived from equation nos.5

$$Y\text{-}c\ 1\text{-}t\ Y = \bar{A} - bi$$

$$Y[\ 1\text{-}c\ 1\text{-}t] = \bar{A} - bi$$

$$Y \frac{1}{1-c1-t}$$

$$\text{Multiplier} = \frac{1}{1-MPC1-tax}$$

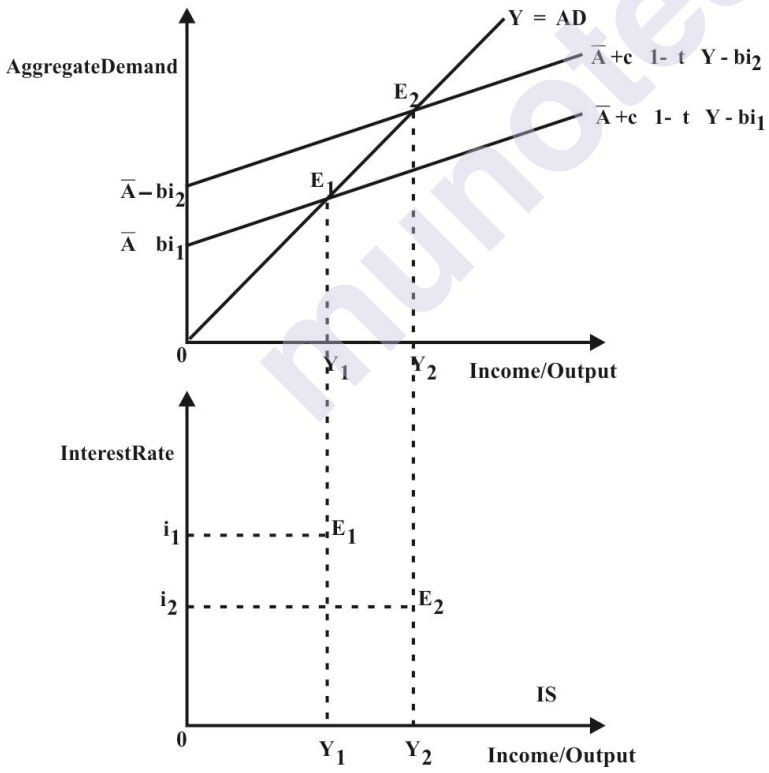
Since investment is inversely related to interest rate, a fall in the interest rate will increase the investment demand. As a result, there will be multiple expansions of income and output which is related to the value of multiplier.

## 5.4 DERIVATION OF IS CURVE:

The IS curve is derived in the following diagram, a fall in the interest rate.

**Figure 5.1**

**Derivation of the IS Curve**




In the upper panel of the diagram, a fall in the interest rate from $i_1$ to $i_1$ has caused an upward shift of the Aggregate Demand curve and the equilibrium income increased form $Y_1$ to $Y_2$ This is brought down in the lower panel of the diagram which shows the income and interest

relationship. In lower panel $Y_1$ is corresponds to higher interest rate of $i_1$ and $Y_2$ corresponds to $i_2$ . The equilibrium point $E_1$ and $E_2$ corresponds to equilibrium points in upper panel. The IS curve connects such points of equilibrium.

**The Slope of the IS Curve:**

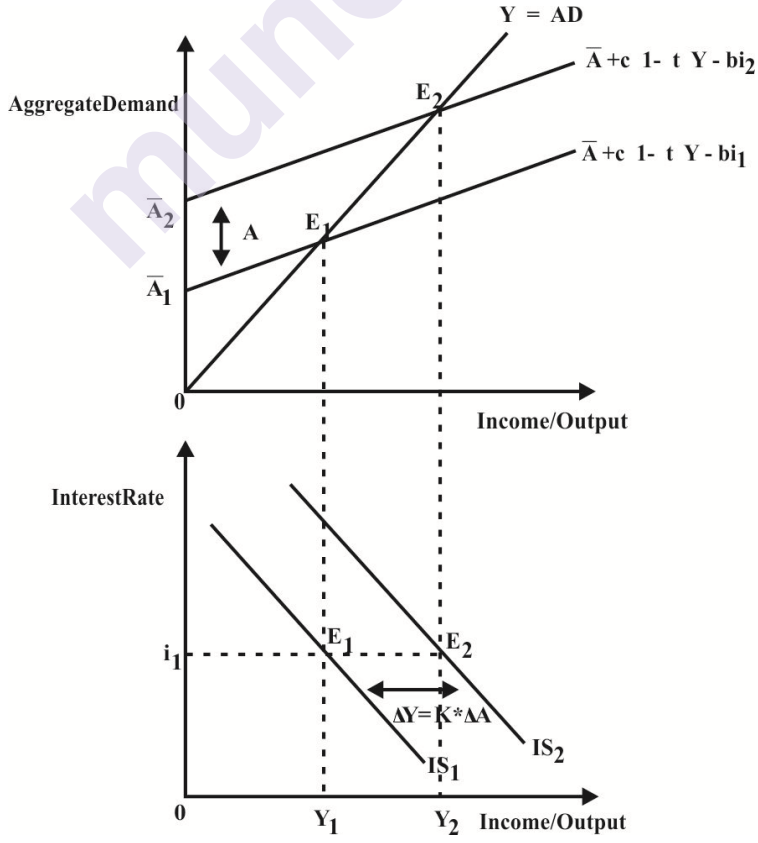
The IS curve is steeper of flatter, according to the value of **MPC** and **b** (investment responsiveness to change in rate of interest). This IS curve will be flatter if the value of **MPC** and **b** are higher. A higher value of MPC and lower value of rate of interest rate make the Aggregate Demand steeper and therefore IS curve is flatter. A higher value of **'b'**cause a greater shift in the Aggregate Demand in the upper panel and hence the IS curve will be flatter.

## 5.5 THE SHIFT IN THE IS CURVE

The shift in the IS curve is caused by an increase in autonomous components of Aggregate Demand such as **private sector investment of government expenditure of goods and services.** After holding the interest rate constant. This is shown in following diagram.

**Figure 5.2**

**Shift in the ISCurve**



The above diagram shows that a shift in the IS curve is caused by a change in autonomous spending ($\Delta A$) or change in investment. As a result, AD curve shift up in upper panel of the diagram increasing the income and output form $Y_1$ to $Y_2$ This is brought down in lower panel. At $i_1$ we have two income levels namely $Y_1$ and $Y_2$ Therefore the IS curve shift form one levels to another.

The horizontal distance between tow IS curve is given by the value of Multiplier (K) and size of change in investment ($\Delta 1$). This means that higher value of Multiplier, greater will be the distance between the IS curves.

## 5.6 EQUILIBRIUM IN GOODS MARKET

Equilibrium in the goods and services market occurs when the aggregate demand for goods and services, defined as $Y^d = C^d + I^d + G_0$, is equal to the aggregate supply of goods and services, Y.

Hence in the goods market equilibrium $Y^d = Y = C^d + I^d + G_0$. We may express this goods market equilibrium in a different but equivalent manner.

By subtracting $C^d + G_0$ from the left- and right-hand sides of the equilibrium condition we get:

$$Y - C^d - G_0 = I^d$$

Using the fact that, in equilibrium, desired national saving is defined as $S^d = Y - C^d - G_0$ we get the equivalent equilibrium condition:

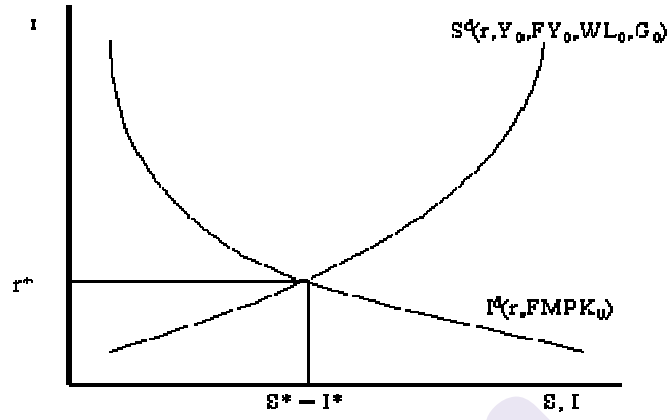
$$S^d = I^d$$

Therefore, in our economy without a foreign sector we have equilibrium in the market for goods and services if desired national saving is equal to desired investment expenditure. We may represent this equilibrium condition in a savings-investment diagram relating both desired national saving and investment as functions of the real interest rate.

**This diagram is as below –**

**Figure 5.3**

**Equilibrium in Goods Market**




In the goods market equilibrium, the desired savings and investment graphs intersect at the interest rate r* and the desired values of savings and investment are equal and are also equal to the actual values of saving and investment as recorded in the national income and product accounts.

## 5.7 SUMMARY

1. The IS-LM model developed in this unit is the basic model of aggregate demand which integrates both the goods market and assets market.

2. The IS curve shows combinations of interest rates and income levels which keeps the goods market in equilibrium. Decreases in the interest rate raise aggregate demand by raising investment expenditure. Thus at lower interest rate, the level of income at which the goods market is in equilibrium is higher – the IS curve sloped downward.

3. The demand for money is a demand for real balances. The demand for real balances increases with income and decreases with the interest rate, the cost of holding money rather than other assets. With an exogenously fixed supply of real balances, the LM curve representing money market equilibrium is upward sloping.

4. The interest rate and the level of income are jointly determined by the simultaneous equilibrium of the goods and money markets. This occurs at the point of intersection of the IS and LM curves.

5. Monetary policy affects the economy initially by changing the interest rate, and then by affecting aggregate demand. An increase in the money supply reduces the interest rate and increases investment expenditure and aggregate demand thus increasing equilibrium output.

6. A fiscal expansion leads to increase in the interest rate which crowd out private sector investment. The extent of crowding out is an important issue in assessing the usefulness and desirability of fiscal policy as a tool of stabilization.

7. The question of the monetary-fiscal policy mix arises because expansionary monetary policy reduces the interest rate while expansionary fiscal policy increases the interest rate. As a result, expansionary fiscal policy increases output while reducing the level of investment; expansionary monetary policy increases output and the level of investment.

## 5.8 QUESTIONS

1. Give note on IS-LM Model of Integration of Commodity and Money Market.

2. Explain Derivation of IS Curve and Shift in IS Curve with the help of diagram.

3. Explain the equilibrium in Goods Market with the help of diagram.

❖❖❖❖

# 6

# LM CURVE

**Unit Structure:**



## 6.0 OBJECTIVES

- To know the concept LM Curve.
- To understand the derivation of LM Curve.
- To study of Shift in LM Curve.
- To study the equilibrium in Money Market.
- To study of the simultaneous Equilibrium in Goods and Money Market.

## 6.1 INTRODUCTION TO LM CURVE

Assets market is the market in which **money** and other **interest earning assets** are traded. The total financial wealth of an individual is held in the form of **real money balance** $\frac{M}{P}$ **and** bonds. It implies that when money market is in equilibrium (L = M), the bond market is also in equilibrium. Therefore, money market equilibrium represents equilibrium of the assets market.

The money market is in equilibrium when the demand for real balance or liquidity preference (L) is equal to the supply of real money balance $\frac{M}{P}$.

Here 'M' is supply of nominal stock of money provided by the monetary authority and is assumed to be constant ($\overline{M}$). The price level is also assumed to be constant ($\overline{P}$).

Therefore, the supply of real money balance is given as $\frac{M}{P}$

Money Market Equilibrium by equation -

$$L = \frac{M}{P} \qquad \text{\_\_\_\_\_} (1)$$

Demand for money depends on level of income 'Y' and rate of interest 'i'. Therefore,

$$L = kY - hi \quad \text{_____} \quad (2)$$

$$k > 0, h > 0$$

Where,

Y = Income/Output

i = Rate of Interest

k= responsiveness of demand for money to change in income

h= responsiveness in liquidity preference to a given change in rate of interest.

Equation no. (2) shows positive relation between 'Y' and 'L' and inverse relation between 'i' and 'L'. Equation nos. 1 can be restated as

$$hi = kY - \frac{\overline{M}}{P}$$

$$i = \frac{1}{h}\left(kY - \frac{\overline{M}}{P}\right) \quad \text{_____} \quad (3)$$

Equation nos. 3 shows equilibrium rate of interest.

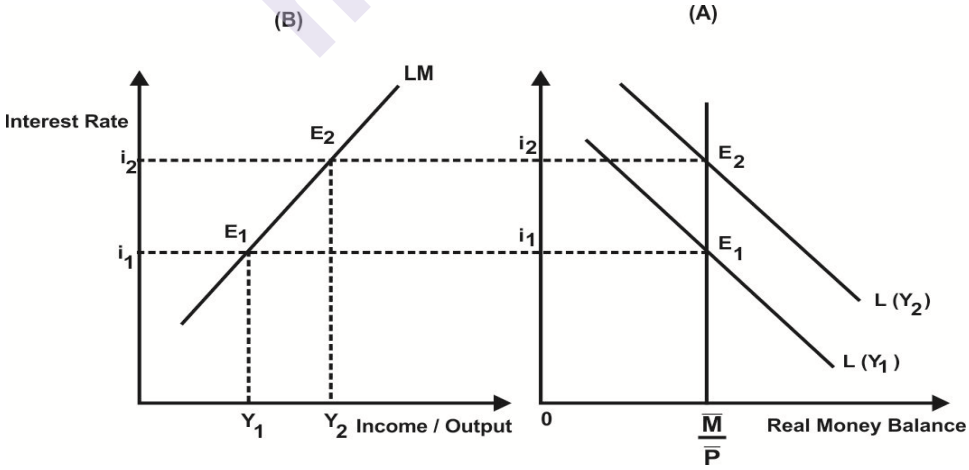
## 6.2 DERIVATION OF LM CURVE

The LM schedule shows all combination of interest rate and the level of income such that the money market is in equilibrium.

This is derived in the following diagram

**Figure 6.1**

**Derivation of LM Curve**




The LM curve in Panel 'B' of the diagram represents combinations of interest rate and income, which keep the money market in equilibrium.

In Panel 'A' of the diagram, demand and supply of money are show. The supply curve is vertical because both 'M' and 'P' are assumed to be constant.

The demand curve or 'L' curve shift to the right along with an increase in level of income. At $Y_1$ level of income, the demand curve 'L' intersects the supply curve at point $E_1$ and hence the equilibrium interest in $i_1$.

Suppose income increases by $Y_2$ and money demand curve shift to L', there is excess demand for money which raises the interest rate higher. A new equilibrium is got at point $E_2$ and interest rate is $i_2$ Thus money market is found to be in equilibrium at $E_1$ and $E_2$.

The combination of interest rate and income namely ($Y_1 i_1$) and($Y_2 i_2$) which maintain money market equilibrium are shown in Panel 'B' of the diagram.

We get the LM curve by connecting equilibrium point $E_1$ and $E_2$ in Panel 'B' where income/output is measured on X – axis and interest rate is measured on Y- axis

**The Slope of the LM Curve:**

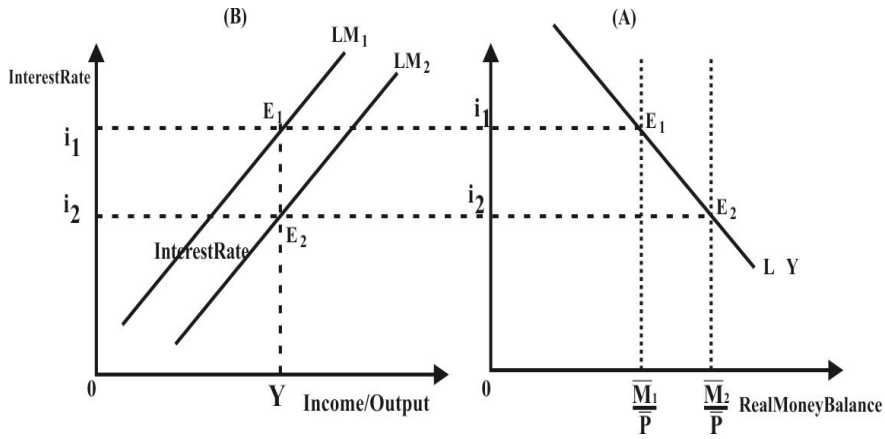
The greater the responsiveness of the demand for money to income, as measured by 'k', and lower the responsive of demand for money to the interest rate as measured by 'h', the steeper will be the LM curve.

## 6.3 THE SHIFT IN THE LM CURVE:

For the given LM curve the supply of real money balance is **constant.** A shift in the real money balances will shift the LM curve. An increase in the money supply will shift t he LM curve to the **right.** This is because an increase in the supply of money will reduce the equilibrium rate of interest. This means that at the same level of income there will be lower equilibrium point. Hence LM curve shift to the right.

**Figure 6.2**

**Shift in the LM Curve**



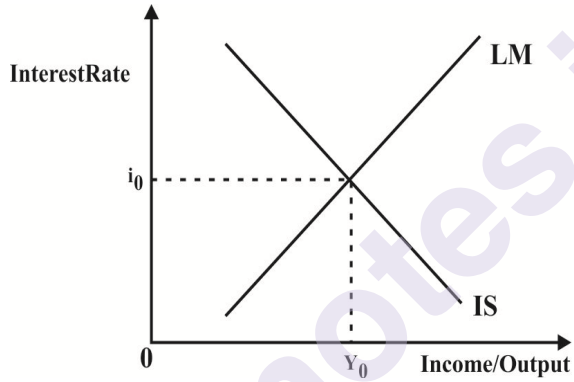
An increase in the supply of money $M_1$ to $M_2$ shifts the money supply curve to the right in Panel A of the diagram. The demand curve L is drawn with reference to particular level of income. As a result of increase in real money supply, the equilibrium interest falls from $i_1$ to $i_2$. In Panel B, we show point $E_1$ and $E_2$. Thus, an increase in real money stock shifts the LM curve to the right.

## 6.4 EQUILIBRIUM IN THE GOODS AND MONEY MARKET

The interaction between IS and LM curve produces a unique combination of income and interest rate which shows simultaneous equilibrium in the goods and money market. This is given in diagram.

**Figure 6.3**

**GOODS MARKET AND MONEY MARKETEQUILIBRIUM**




The IS – LM intersect at point E. This point shows that at this particular point both markets are in equilibrium with the equilibrium level of income as $Y_0$ and interest rate as $i_0$. At point E economy is in equilibrium for a given price level. Therefore important assumption for this analysis is that price level remains constant.

**Check your Progress:**

1. Explain the slope of the LM curve.

## 6.5 SIMULTANEOUS EQUILIBRIUM IN GOODS AND MONEY MARKET

The goods and the money markets are interlinked by two economic variables, namely: interest rate and national income. In this model, interest rate is introduced in the goods market through investment demand. The goods market therefore has two variables – interest rate (i) and national income (GDP). The goods market equation is known as the IS curve. The IS curve represents equality between saving (S) and investment (I) and all points on the IS curve show goods market equilibrium at different levels of interest and national income. The money market equilibrium is determined by the demand for and supply of money at various levels of interest and national

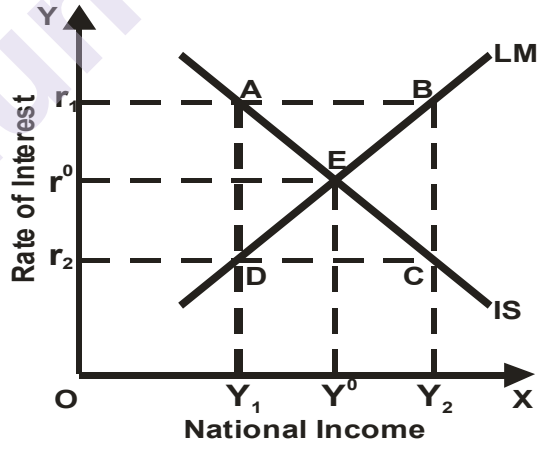
income. The demand for money is a function of income and interest rate. The supply of money is determined by the Central Bank (the RBI in India or the Federal Reserve in the USA). The money market equation is known as the LM curve. The LM curve represents equilibrium between demand and supply of money at various levels of interest rates and national income. Various points on the LM curve shows equality between demand for money (L) and supply of money (M).[1]

The IS-LM model shows how the equilibrium levels of income and interest rates are simultaneously determined by the simultaneous equilibrium in the two interdependent goods and money markets. Hicks, Hansen and Johnson put forward the IS-LM model on the basis of Keynesian framework of national income determination in which investment, national income, rate of interest, demand for and supply of money are interrelated and inter–dependent. These variables are represented by two curves, namely; the IS and the LM curves.

The equilibrium rate of interest and the level of income is determined at the intersection point of the IS and LM curve. The goods market is in equilibrium at all points on the IS curve and the money market is in equilibrium at all points on the LM curve. Hence, only at the point of intersection between these two curves, both the money market and the goods market will be simultaneously assuming equilibrium. Such an equilibrium condition is depicted in Fig. 6.4 below.

**Figure 6.4**

**Simultaneous Equilibrium in the Goods and MoneyMarket**




The simultaneous equilibrium in both the markets is determined at point E, whereby r0 is the interest rate determined and Y0 is the level of national income. At interest rate r1 and income level Y1, the goods market will be in equilibrium at point 'A' on the IS curve. But at the interest rate r1, the money market will be in equilibrium only at income level Y2 at point 'B' on the LM curve. At interest rate r1, the income level Y1 is too low for money market equilibrium and hence the money demand is not enough to match the given quantity of money supply. With excess supply of money, interest rate will fall until it reaches r0 level. At r0 interest rate, aggregate demand and national income would have risen sufficiently to increase money

demand so that equilibrium in the two markets is obtained. Alternatively, at r2 interest level, the income level Y2 required for goods market equilibrium at point 'C' is greater than the income level Y1 required for equilibrium in the money market at point 'D'. With income too high for money market equilibrium, there is excess demand for money pushing the interest rates up until they reach r0 with Y0 income level where both markets are in equilibrium.

## 6.6 QUESTIONS

1. How LM curve is derived?
2. Show how simultaneous equilibrium is reached in goods market and money market with the help of IS-LM curves.

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# Module – IV

# 7

# BALANCE OF PAYMENT

**Unit Structure:**



## 7.0 OBJECTIVES

- To understand the structure of balance of payment.
- To study the types or causes of disequilibrium in the balance of payment.
- To study of measures to correct the balance of payment disequilibrium.

## 7.1 INTRODUCTION

A very important concept in economics is the balance of payments (BoP). According to Kindleberger, "balance of payments is a systematic record of all economic transactions between the residents of the reporting country and the rest of the world duringgiven period of time." In other words, a balance of payments shows how much a country earned and how much a country owes to the rest of the world. Any truncation that earns a foreign exchange is known as credit transaction. Any transaction that results in an outflow of foreign exchange is called a debit transaction. J. E. Meade classified transactions of the balance of payments on the basis of the nature of transactions. According to him, 'an autonomous transaction' is a transaction that takes place for its own sack.' That is these transactions are entered into with the motive of satisfying some human want.

For example, an export or import because it entails utility to the producer or consumer. Similarly, use of services gives satisfaction or helps in production process. 'An accommodating transaction' refers to a transaction undertaken with the objective or adjusting for a mismatch on the total of autonomous transactions. For example, a country is forced to

borrow from abroad if it owns money to other countries as when its imports are more than the value of its imports. An investment decision is considered to be autonomous when it is taken with an intention to earn profit in a country abroad. A decision to borrow abroad because the country owes money to other country, it is considered as an accommodating transaction since it tries to bridge the gap between receipts and payment requirements. It is to be noted that a loan from abroad is an accommodating transaction. However, the interest paid on this loan is an autonomous transaction. Based on the nature of transactions, the balance of payments is divided into sub-accounts.

## 7.2 STRUCTURE OF BALANCE OF PAYMENT

The balance of payments given above is classified into subaccounts as mentioned earlier.

1. **Balance of Trade:** This is the net of merchandise exports and imports. If a country exports more than the value of goods it is importing, it is said to be having a balance of trade surplus. Conversely, when the country is importing more than the value of goods exported by it, the trade balance is said to be in deficit. Most of the countries of the world do run deficits in their trade balance. From the above table we can see that in 2009-10, India had a trade deficit equal to Rs.5,60,746 crore or U.S. $ 118,374 million.

2. **Balance on Invisible Trade:** This refers to the export and import of services by the country. The country earns foreign exchange through remittances by residents working abroad, providing consultancy, tourism, providing banking, shipping and insurance services, and interest on past loans. Conversely, a country pays foreign exchange for imports of services, consultancy, travel abroad by residents, hiring shipping, banking and insurance services, and by paying interest on loans from abroad among others. In 2009-10, India had a surplus on this account equal to Rs. 3,80,120 crore, or U.S. $ 79,991 million.

3. **Balance on Current Account/Current Account Balance:** This is the net of the transactions on merchandise and invisible trade. This account is a measure of a country's external economic health. Persistent deficits in the current account undermine the viability of the economy. During 2009-10, India had a current account deficit of Rs. 1,80,626 crore or U.S. $ 38,383.

4. **Balance on Capital Account:** This account shows the flow of finance between the reporting country and the rest of the world. There are six major types of transactions in this account.

   - Foreign capital refers to direct and portfolio investment by individuals and corporates. An investment by the resident abroad is recorded as a debit transaction as it results in an outflow of foreign exchange. Investments made in the reporting country are recorded as credit transactions.

- Loans from Abroad refers to external commercial borrowings and external assistance, including the trade credit accessed by exporters.
- Banking capital refers to inflows and outflows in the commercial banking sector.
- Rupee Debt Servicing refers to the interest paid on loans taken from the erstwhile Soviet Bloc countries.
- Other capital flows are miscellaneous flows India witnessed an outflow on this account in 2009-10.
- Errors and Omissions are the sum of recording errors. For India, in 2009-10, the sum of these six transactions amounted to Rs. 2,24,861 crore or U.S. $ 51,824 million.

**5. Overall Balance:** This is the net of current and capital account balance. In 2009-10, for India this amount was Rs. 64,235 crore, or U.S. $ 13,441 million. The net inflow of capital results in reserve accretion or addition to the stock of the foreign currency assets (FCAs) of the country. If the country cannot mobilize adequate funds on its own, it will have to borrow from the International Monetary Fund (IMF). Monetary movements refer to transfer of foreign exchange reserves/gold held by the central bank of the country to settle the disequilibrium in the balance of payments. If the country has a surplus in the trade balance and/or the invisibles, it may run a surplus in the current account. This surplus is compensated by an off-setting deficit in the capital account. Conversely, when the country has a deficit in the trade balance and/or a deficit in the invisibles, it may run a deficit in the current account. This is compensated by borrowings from other countries, running down the reserves, and/or a loan from the IMF. In all such cases, the country would run a surplus in the capital account. Thus, a country may have a deficit or a surplus in any one account but the overall balance of payments always balances.

## 7.3 TYPES/CAUSES OF DISEQUILIBRIUM IN THE BALANCE OF PAYMENT

A balance of payments may not always be in balance. That is, at any point of time, during a given period of time, a country may experience a mismatch between its receipts and payments. However, a balance of payments disequilibrium then has a specific connotation and should not be confused with a temporary deviation. According to Machlup, a balance of payments disequilibrium refers to continuous, persistent occurrence of deficits or surpluses. Since the deficits are more common and difficult to handle, the traditional international trade theory focused on them, with little attention to cases where there are surplus. According to Kindleberger, there are three types of disequilibrium depending on the nature and the underlying causes. They are classified as under:

**1. Cyclical Disequilibrium:**

This refers to payments disequilibrium due to trade cycles. Thus, during a boom, a country would be experiencing import surplus; exports would decline due to higher domestic prices, and run a trade deficit. Alternately, when there is a recession, the country would experience a surplus since the demand for imports will decline and due to lower prices, the exports would increase. This type of disequilibrium does not require an special measures to contain the payments disequilibrium since the domestic stabilisation policies would automatically take care of the disequilibrium. When there are two countries, the country with a stronger trade cycle would alternatively be fluctuating compared to its trading partner.

**2. Secular Disequilibrium:**

This case is applicable to most of the developing countries. In developing countries, the available investment opportunities far exceed the available savings/resources. In such cases, the country may have to borrow for a long period until it can generate adequate exportable surpluses. As a country develops, its production capacity increases, increases the exports and the country earn the capacity to repay the loans. In this case, also, there is no need for a separate balance of payments adjustment policy.

**3. Structural Disequilibrium:**

A structural disequilibrium affects only one or few sectors of the economy. Thus, it is different from the cyclical and secular disequilibrium, which affect the entire economy.

Kindleberger identified two types of structural disequilibria.

A) Structural disequilibrium in the goods market: this refers to the changes in the demand and supply conditions in a particular sector. A sudden, permanent change in demand, like in the case ofjute industry due to the introduction of plastic; the effect on demand for cotton textiles due to the introduction of synthetic fibers; the impact on metal industry due to the introduction of poly fibers, are some of the examples of structural disequilibrium. A sudden crop failure, shortage of raw materials, a strike in the major industry would force the country to opt for imports as in the case of the US steel imports and cause a large deficit in the balance of payments. Sometimes a country may suffer a loss of service income like Egypt when the Suez Canal was closed, Belgium due to the closure of copper mines in Congo; India in case of Gulf Crisis.

B) Structural disequilibrium in the factor markets arises when the factor prices fails to reflect the relative factor availability. When government tries to protect the labour and introduce wage regulations, the cost of labour increases relative to that of the capital. In such cases, the producers would prefer to employ more capital and less labour. As a result, the production structure will be distorted and the country would be producing goods that need more of imported raw materials and a continuous

worsening of the balance of payments. In countries like India and many other developing countries, this has happened.

C) A persistent and high rate of Inflation tends to push the relative prices higher than the world prices. As exports become costlier, demand will shrink. At the same time, imports would be cheaper and increasing. Thus, the trade balance will continue to worsen. The high rates of domestic inflation in case of many developing countries were found to be the main reason for decline in exports.

D) Flight of capital is also an important cause of a structural disequilibrium. In Europe, during the 1930s, the withdrawal of foreign capital lead to severe decline in the levels of output and employment and resulted in the World War II. Similarly, in case of India, Egypt, Latin America the political uncertainties due to independence movements led to withdrawal of foreign capital that permanently affected the economy. In recent years, the fear that China may introduce communist rule in Hong Kong led to flight of capital. A continuous depreciation in a currency also triggers flight of capital and therefore, the central banks try to maintain a stable exchange rate.

**4. Fundamental Disequilibrium:**

According to the International Monetary Fund (IMF), the case of a 'fundamental disequilibrium' is the most important form of disequilibrium and needs special attention. A country is said to be suffering from a fundamental disequilibrium if the following conditions are observed:

1) A persistent and high rates of domestic inflation.

2)A persistent and high levels of fiscal deficits (more than 3% of GDP).

3) An overvalued exchange rate.

4) Factor market distortions, where the price of labour is higher thanthe marginal product of labour and/or subsidisation of capital with the price of capital being lower than its marginal product.

5) An irrecoverable loss of export markets due to changes in demand or introduction of substitutes and/or introduction of new technologies- India loosing markets for its jute exports; Egypt loosing markets for its cotton exports and Ghana losing its tin export markets.

6) Consistently adverse capital flows

7) Persistent and high external borrowings, and,

8) Domestic distortions in the form of adverse trade and industrial policies.

## 7.4 MEASURES TO CORRECT BALANCE OF PAYMENT DISEQUILIBRIUM

As noted earlier, though the balance of payments disequilibrium refers to both a deficit and a surplus, economic theory concerned it with correcting a deficit since it is more difficult to tackle. We shall now examine some of the methods of adjusting or overcoming a balance of payments deficit. They are broadly classified as monetary and non-monetary methods.

**1. Monetary Measures:**

These methods try to change the demand and supply of money, interest rates, availability of credit and the exchange rates to bring about a change in the demand for exports/imports and the supply of exports. We shall examine them in detail now.

**A)Deflation:**

Under this method, the central bank of the country with a payments deficit will reduce the supply of credit through increase in open market operations, reduction in money supply. The central bank will reduce the loans to the government since budget deficits are an important source of excess demand for goods and services. It will increase the bank rate so that the lending rates in the economy increases and this will bring down the demand for bank credit. As the levels of expenditure and investment fall, the demand for imports would decrease. At the same time, as the domestic price level falls, the exports would become cheaper and the balance of trade would improve. However, this method lost its sheen after the Great Depression.

**B) Depreciation:**

In this case, the central bank of the country allows the market value of exchange rate to decrease. When imports increase and exports fall, the demand for the country's currency decreases in the market and the demand for foreign currency increases. In this case, the exchange rate starts falling. As the exchange rate depreciates, it results in a fall in demand for imports and exports starts picking up. However, this method is rarely resorted to since a continuous depreciation in a currency results in speculative attacks and this can result in flight of capital, which we discussed in the causes of disequilibrium. It is important to remember that since the depreciation is market determined, a currency may depreciate visà-vis one currency and appreciate vis-à-vis another at the same time depending on the relative demand for each currency. The 1998 Asian Contagion is one example of speculative attacks on a currency.

**C)Devaluation:**

This is a method where, the central bank of the country will lower the official value of the currency. The currency of each country is officially declared in terms of gold or SDRs. When faced with persistent deficits, central banks devalue their currency. Since 1946, all the member countries

of the IMF require its prior permission to devalue their currency. In June 1991, India devalued its currency in order to overcome its balance of payments crisis. In case of devaluation, the value of the currency falls vis-à-vis all its trading partners. Thus, exports to all countries and imports from all countries are affected equally. The use of devaluation is governed by certain principles. This is known as the "Marshall-LernerCondition." Let us examine this condition first. According to this condition, a country should devalue only when it faces elastic demand for both its exports and imports. This is given as:

$$\partial B = (Ex + Em) > 1$$

In the above equation, $\partial B$ = the rate of change in the trade balance due a devaluation. Ex = elasticity of demand for exports of the devaluing country. Em= elasticity of demand for imports in the devaluing country. If the sum of the elasticity is more than one, then only a country will gain from devaluation. This is explained with the help of an example:

Suppose, India's export elasticity is 2.1, and its import elasticity is 2.4. In such a case, a 7.5 percent devaluation of rupee results in a 15.75 percent increase in its exports and an 18.00 percent fall in its imports. Thus, India's trade balance would improve by 33.75 percent. However, using devaluation needs caution due to the following factors:

**a) Competitive Devaluation**:

In this case, as a country tries to improve its trade balance through devaluation, its trading partners may also try the same. In such a case, the total trade will fall, as exports of one country are nothing but imports by another. This has actually happened in the 1930s. It is for this reason that the IMF ensures maintenance of stable exchange rates by all its members.

**b) Nature of Trade:**

Devaluation can be successful only when the country concerned imports/exports goods that have elastic demand. In case of most of the developing countries, their imports are of essential in nature like, oil, fertilizers and machinery. The demand for these goods is inelastic. They export primary goods for which the demand is either stagnant or declining. In such cases, a devaluation of the currency may actually deteriorate the balance of payments.

**c) J-curve:**

It is observed that when a country devalues its currency, the immediate effect is a worsening of the trade balance. This is because; the demand and supply conditions will have to adjust to the new prices. Till such time, a fall in the exchange rate would reduce the export earnings and the increase in import prices will increase the import bill. It will take three months for the trade balance to improve. During such time, the government should not try to interfere with the working of the market. It is observed by studies that in June 1966, when the Indian rupee was devalued, the

immediate effect was a worsening of the trade balance. Political pressures forced the government to reverse all the policies that were introduced to promote trade.

**d) Speculation:**

It is observed that devaluation can result in further expectations about the fall in exchange rate. Thus, the central bank has to be on guard against such possibilities. This was the case with many Latin American countries in 1970s and 1980s.

**C) Exchange Controls:**

Under this method, the central bank tries to control the use of scarce foreign exchange for specified purposes. It also enters into agreements with important trading partners about the rate at which the exports and imports of each country need to be traded. It also determines different exchange rates for different purposes/types of imports. Though these methods were extensively used until recently, the IMF ensured that most of them are eliminated.

**2. Non-Monetary Measures:** These methods try to reduce imports and/or increase exports to improve the trade balance. The important among these are as under:

**A) Tariffs:**

A tariff refers to a tax on imports and/or exports. If taxes are imposed on exports, it is known as 'export tariffs' or 'export duties'. However, export tariffs are rare, since no country would like to see a fall in exports due to higher prices. An 'import tariff' or 'import duty' refers to a tax on imports. Since a tax increases the price of imports, these are popular method of controlling imports. Further, import tariffs are an important source of public revenue in many countries. 'Transit duties' are taxes imposed on goods passing through the borders of a country, but not meant for sale in the country. Since early 1990s, many countries have opted for liberalization of trade and industry and as such, the role of tariffs in adjustment has reduced greatly. Further, any discriminating tariff is subject to the jurisdiction of WTO and is not allowed. Thus, the role of tariffs to improve the trade balance virtually ended in 1995.

**B) Quotas:**

These are restrictions on the volume of trade. They may be specified in physical terms, as imports of a given quantity need government clearance. They can be specified in terms of foreign exchange allowed on a particular import. These are also redundant now since the WTO disallows are quota restrictions on trade.

## 7.5 SUMMARY

Balance of payments refers to the systematic records of all economic transactions between the residents of a country and the residents of the rest of the world. Balance of payments consists of trade account, current account and capital account. In accounting sense balance of payments always balances. However, in economic and in real sense balances of payments are either in surplus or in deficits. India's balance of payments are in deficits since Independence. The major reasons for such as large deficits in India's balance of payments are tremendous rise in import bill, devaluation and depreciation of Rupee, slow rise in export earnings, stiff competition from other emerging economies such as China, Brazil, South Africa & even countries like Shrilanka, Bangladesh etc. The positive aspects of recent balances of payments in India is quite interesting. Though the import bill is still high, the export earnings have been rising in the country. The best method to correct the deficits in the balance of payments is to promote and expand exports.

## 7.6 QUESTIONS

1. What are the various causes of balance of payments disequilibrium?
2. Examine the different monetary measures of adjustment.
3. What are the types of balance of payment disequilibrium?
4. Explain the structure of balance of payment?

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# 8

# FOREIGN EXCHANGE MARKET

**Unit Structure:**



## 8.0 OBJECTIVES

- To know the meaning of foreign exchange market.
- To study the nature of foreign exchange market.
- To understand the determining process of exchange rate.
- To understand the meaning of fixed and flexible exchange rate.
- To understand the meaning of spot and forward exchange rate.
- To know the exchange rate policies.

## 8.1 INTRODUCTION

Foreign exchange market is a place (or arrangement) where the purchase and sale of foreign exchange takes place. It is a world-wide market. Anywhere in the world, wherever and whenever there is buying and selling of one currency with another country‘s currency is known as foreign exchange market. Exchange rate refers to price of a country currency vis-à-vis another country‘s currency in other wards how many Rupees (Indian Currency) is equals to the value of American Dollar (US currency). If one US $ can buy goods which forty Indian Rupee buy then the exchange rate between US $ and Indian Rupee is 1 $ = Rupees 40. Exchange rates are determined by the interaction of the household, firms and financial institutions that buy and sell foreign currencies to make

international payments. The major participants in the foreign exchange market are: (a) Commercial Banks (b) Corporations engaging in International Trade (e) Non-Banking financial institutions (d) Retail – Clients (e) Foreign Exchange Brokers and (f) Central Banks.

Exchange rate convertibility refers to the ability of residents and non-residents to exchange domestic currency for foreign currency, without limit, whatever be the purpose of the transactions. In India, partial convertibility of Rupee (j) was introduced in the Budget for 1992-93 and full convertibility of Rupee on Trade Account in the Budget for 1993-94. In August, 1994, India achieved full convertibility of rupee on current account.

Foreign capital flows into an economy in the form of aid, borrowings, portfolio and direct investments. Donations and grants also form a very small portion of foreign capital inflows. Foreign Capital plays pivotal role for the economic development of any country particularly a developing economy such as India. The inflow of foreign capital in a developing economy is associated with the inflow of foreign expertise & advanced know how.

It is thus, interesting to clearly understand the complex nature of foreign exchange market, players in the foreign exchange market, determination of exchange rate factors, affecting exchange rate forms of capital Flows. In this unit we would make an attempt to analyse these terms and their impact on India‘s foreign trade.

## 8.2 FOREIGN EXCHANGE MARKET: MEANING AND NATURE

Foreign exchange market is a place (or arrangement) where the purchase and sale of foreign exchange takes place. It is a world-wide market. Anywhere in the world, wherever and whenever there is buying and selling of one currency with another country‘s currency is known as foreign exchange market. Exchange rate refers to price of a country currency vis-à-vis another country‘s currency in other wards how many Rupees (Indian Currency) is equals to the value of American Dollar (US currency). If one US $ can buy goods which forty Indian Rupee buy then the exchange rate between US $ and Indian Rupee is 1 $ = Rupees 40.

The economic agents involved in the forward markets can be divided into three groups. They are: (a) Hedgers (b) Arbitrageurs & (c) Speculators.

**(i) Hedgers:**

These are agents (usually firms) who enter the forward exchange market to protect themselves against the risk arising out of exchange rate fluctuations. To understand the risk, let us assume an Indian importer who imports goods from U.S.A. worth $ 50,000 has to make the payments in three months time. The spot rate at the moment is Rs. 40=$ 1 which requires Rs. 20,00, 000. Due to uncertainty of the market, if the importer fears a depreciation of rupee, he will have to pay more than Rs. 40/- of

rupee, $ 1 three months hence. Therefore he may enter into buying dollar forward today, through an agreement with commercial banks or authorized agents. If he enters into an agreement to purchase at the rate of Rs. 40.25, he does so as he fears the depreciation of rupee. After three months he requires to pay an additional Rs. 12,500 more. If the spot rate is more than Rs. 40.25 after 3 months then the hedgers stand to gain. If it turns out to be only Rs. 40.00 or less than that, hedgers are the losers. The advantage of forward market which provides this facility makes the importers sure of the money that he has to pay for obtaining $ 50,000.

**(b) Arbitrageurs:**

These are the agents casually banks who intends to make a riskless profit out of discrepancies between interest rate differentials and the forward discount and forward premium. Arbitrageurs enter into arbitrage. This refers to purchase of an asset in a low price market and its riskless sale in a higher price market. This process leads to equalization of prices of an asset in all the segments of the market. Difference in prices if at all, is not more than transport or transaction cost.

Arbitrageurs will take advantage of the different exchange rates prevailing in various foreign exchange markets due to interest rate differentials. Let us explain this with an example suppose Rs. = $ exchange rate prevailing in India is Rs. 50= 1$ and in USA Rs. 48= 1$. People will purchase dollars in USA and sell it in India earning a profit of Rs. 2 per dollar. In the process increasing demand for dollars in USA will push up the prices to Rs. 49 and more supply of dollars will bring down the price of dollar (in India to Rs. 49. Arbitrage, therefore helps equalize the exchange rate in different markets.

**(c) Speculators:**

These are agents who intend marking a profit by taking the advantage of changes in exchange rates. They participate in the forward exchange market by entering into forward exchange deal. They do so on the basis of their own calculation of the difference between the forward rate and the spot rate that may prevail on a future date. For example, if a speculator enters to sell a dollar at Rs. 41.00 after three months with expectations of the dollar becoming cheap and the spot rate after three months is Rs. 40 = 1 $, the speculator purchases the dollar for spot (Rs. 40) and sells for the agreed forward rate (Rs. 41), thus making a profit of Rs. 1 per dollar. He may incur loss if the spot rate crosses Rs. 41.

## 8.3 DETERMINATION OF EXCHANGE RATE

Exchange rate in the modern days is determined by the intersection of demand for foreign exchange (US $) and supply of foreign exchange.

**1. Demand for Foreign Exchange:**

Demand for foreign exchange is inversely related with exchange rate. Demand for foreign exchange comes mainly from importers, individuals,

institutions and government. The demand for foreign exchange is explained with the help of following diagram.

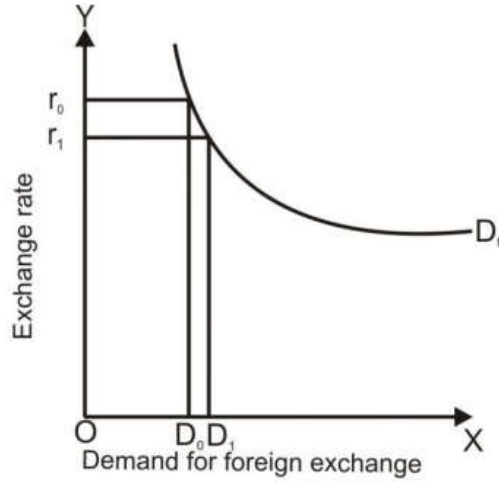


**Fig -8.1**

**Demand for Foreign Exchange (US Dollars)**

In the above drawn diagram, Df represents demand for foreign exchange. On the vertical (y) axis, exchange rate is measured and on the horizontal (x) axis, Demand for foreign exchange is measured. Df is downward sloping which indicates negative relationship between exchange rate and demand for foreign exchange. When rate of exchange falls from r0 to r1 the demand for foreign exchange increases from D0 to D1.

**2. Supply of Foreign Exchange:**

Supply of foreign exchange is positively related with exchange rate. Foreign exchange is mainly supplied by exporters, external borrowing, earnings from foreign nationals visiting home country etc. The relationship between exchange rate and supply of foreign exchange is explained with the help of following diagram.


**Fig -8.2**

In the above drawn diagram, exchange rate is measured on Y-axis and supply of foreign exchange on X-axis. Sf represents supply of foreign exchange. Sf is positively sloped curve which indicates positive relationship between exchange rate and supply of foreign exchange. When exchange rate increases from r0 to r1, the supply of foreign exchange increases from D0 to D1.

**2 Determination of Exchange rate:**

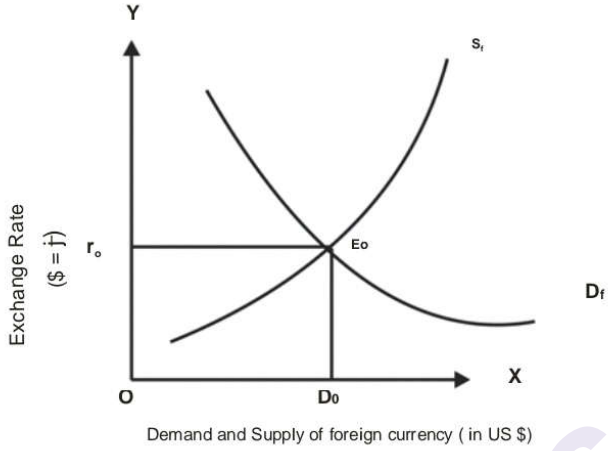


**Fig -8.3**

With the intersection of demand for and supply of foreign exchange, the rate of exchange is determined. In the diagram draw below Df is demand for foreign exchange curve and Sf represent supply of foreign exchange. At E0, Demand for and supply of US dollar (foreign currency) is equal to each other and r0 exchange rate is determined and D0 amount of foreign currency is demanded and supplied.

## 8.4 FIXED AND FLEXIBLE EXCHANGE RATE

Foreign exchange rate is the price of one nations currency in terms of the currency of another nation. Exchange rates are either fixed by governments or determined by free forces of market with regards to demand and supply of the same. Prior to World War II, most of the currencies of world were convertible to gold. Later, the Bretton Woods system came into existence wherein countries of the world pegged their foreign exchange rate to the U.S dollar. After 1973, the Flexible exchange rate system came into existence under which the foreign exchange rate was influenced by the market demand and supply factors.

The two prominent exchange rate systems are Fixed exchange rate system (Pegged system) and Flexible exchange rate system (Fluctuating system). The transaction in the foreign exchange market viz., buying and selling foreign currency take at a rate, which is called „Exchange rate□. This market is not any physical place but a network of communication system connecting the whole complex of institutions including banks, specialized foreign exchange dealers and official government agencies through which

the currency of one country can be exchanged for that of another (converted into another).

This is the system where the exchange rate is fixed and found rigid irrespective of changes in the demand and supply of exchange. This rate is fixed by the government by means of pegging operations. (Buying and selling exchange at a particular rate).Government follows exchange control to keep the rates stable. It helps to reduce the exchange reserves. It is the feature of IMF agreement.

In this system exchange rate go on fluctuating according to the demand and supply of it in the world market. Exchange rate is determined according to the free forces of demand and supply of foreign currencies. This system is quit suitable for the countries like USA. This rate is set where the demand for exchange and supply of exchange is in equilibrium.

## 8.5 SPOT AND FORWARD EXCHANGE RATE

Spot rate refers to the exchange rate between two currencies that will prevail in the market for a day or two. In other words, it is the rate for today and tomorrow. This rate is used for settling the transactions in the market.

Forward rate is the rate of exchange that will come into effect at a future date. The forward rate is contracted today to settle a transaction that will take place sometime in future. The forward rate is quoted for one, three and six months. For example, an importer from the USA will buy dollars today so that he will get the necessary dollars in future when he has to pay for the imports made by him. Similarly, an exporter any sell his dollars that will be realised after one month. This matching of the future demand and supply of foreign exchange is one of the important functions of the foreign exchange market.

The forward rate is linked to the spot rate through the interest rates and the expectations about the future demand and supply of foreign exchange. Let us assume that the spot rate between the US$ and £ is given as: US$1 = £0.8 or £1 = US$ 1.25; and the interest rate is the US is 4 percent and in the UK it is 4.5 percent.

The relationship between the sport rate and the forward rate is expressed in terms of the following equation:

$$r_f = (1 + i)\, r_s$$

Where,

$r_f$ is the forward rate,

$r_s$ is the spot rate,

i is the interest rate.

In the above example, the 90-day forward rate between the US dollar and po und would be: 1 (1+0.01125) = 1.264 or US$ 1 =£0.791 or US$ 1.264 = £1 in other words, the country with a higher interest rate would experience an appreciation in its exchange rate. The above condition is known as the "interest rate parity." That is the forward rate of a currency will be equal to the spot rate + the interest difference between the two countries.

## 8.6 EXCHANGE RATE POLICY

The foreign exchange rate gives the price of the foreign currency in terms of domestic currency. Under the Gold standard the exchange rate remains fixed and stable among the countries and the adjustments in exchange rates are brought about by export and import of gold. The main disadvantage of the Gold standard is that the domestic economic policies are subject to consideration relating to inflow and outflow of gold. It collapsed mainly because of the conflict between the policy prescriptions required to meet the domestic economic situations and the requirements necessitated by gold flows. The IMF from its inception adopted a fixed exchange rate system which permitted changes in exchange rates only in case of ―fundamental disequilibrium in the balance of payments.

The Bretton woods system collapsed in August, 1971 with the abandonment of Bretton woods system, exchange rates of most of countries have been floating. Under the floating exchange rates the exchange rates moves up and down due to changes in demand for and supply of currencies. The breakdown of the par value system has, in general, encouraged countries to give more active consideration to the exchange rates in domestic economic policies. Exchange rate management plays a role complimentary to trade policy. In the first decade of the floating exchange rate regime, serious concerns were expressed on the volatility and misalignment of currencies. However, in the more recent period there has been a general acceptance of the floating exchange rate regime with all its short comings. Now developing countries including India have opted for a market determined exchange rate system.

Along with the changes in exchange rate system in the world, India exchange rate policies to change the important exchange rate policies adopted in India are the following.

**1. India's Exchange Rate Policy Till 1991Par Value of Rupee till 1971:**

Until the break-down of the Bretton Woods System in August 1971, the par value of the rupee was declared in terms of gold. The Reserve Bank of India maintained the par value of the rupee within the permitted margin of one percent on either side of the parity. After the devaluation of the Rupee in 1966, the par value of the rupee was fixed at 0.118489 grams of fine gold per rupee or Rs. 7.50 per US dollar. The RBI also kept the rupee pound rate stable at Rs. 18 per pound sterling by its buying and selling operations in the foreign exchange market. Since the dollar sold rate and pound dollar rate were maintained stable by the monetary authorities of

U.S.A. and Britain respectively, the rupee exchange rate in terms of gold, dollar and other countries remained stable.

**2. U.S. dollar Rupee Link:**

Following the suspension of convertibility of US dollar into gold in August 1971, the government of India pegged the rupee to the U.S. dollar. However, pound sterling contained to be used as an intervention currency. ―An intervention currency is a foreign currency, usually a reserve currency, which the central bank of a particular country buys and sells at a fixed exchange rate with respect to the domestic currency. The central bank enters into open market operations in this currency to keep the exchange rate stable vis-à-vis the domestic currency. The fluctuations in market demand or supply of this currency do not affect its exchange rate because of the actions of the central bank. ―Under the system of floating, the exchange rates of all other currencies are determined by the behaviour of the intervention currency against those currencies.

**3. Pound – Sterling Rupee Peg:**

Following the Smithsonian agreement on the realignment of major currencies in December, 1971, the U.S. dollar was devalued and other important major currencies were revalued and the government of India decided to peg the rupee to pound sterling. The central rupee – pound sterling rate was fixed at Rs. 18.9677 as against the previous rate of Rs. 18 and, therefore rupee was devalued by 5.1 percent against pound – sterling. It also continuedto be the intervention currency subsequently; British economy faced a worsening of his balance of payments situation and a down ward trend in her economic activities therefore U.K. decided to float the pound-sterling on June 23, 1972. The exchange rate of the rupee vis-à-vis other currencies came to be determined everyday by the previous day‘s noon London market cross rates on June 26, 1972 to rupee was marginally revalued by reducing the central rate to Rs. 18.9499 from Rs. 18.9677 per pound on June 4,1972 the rupee was further revalued by 0.89 percent when the rupee-pound sterling rate was fixed at Rs. 18.8001. This rate remained fixed till July 2, 1975.

**1. The Basket Peg:**

Ever since the floating of pound sterling in June, 1972 the exchange rate of the pound sterling witnessed a persistent down ward movement in terms of US dollar. Along with it the rupee also depreciated. Since India was under severe inflationary pressure during this period, the indirect depreciation of the rupee helped to maintain the competitiveness of our exports in the world market. But, by October 1974 the Wholesale Price Index began showing a downward trend. The establishment of domestic price stability necessitated the maintenance of stability in the external value of the rupee. By 1975 the pound sterling depreciated significantly. Along with the depreciation of pound-sterling the rupee also sell sharply against all major currencies further, there was sharp fluctuations in the exchange rates of major currencies and persistent uncertainty in the market which raised serious doubts about the desirability of continuing the single

currency peg. Therefore in September 1975 Government of India took a decision to delink the rupee from the pound and peg it to a basket of selected currencies. The currencies as well as their weights in the basket have been kept confidential by the RBI, probably to prevent speculation against the rupee.

The changes in the rates of the rupee were determined by the changes in the daily market value of the currency components included in the basket. But the rate of rupee was expressed in terms of pound-sterling which was continued to be the intervention currency.

The rupee-pound parity would be altered when the value of the currencies in the basket changed by more than 2.25 percent on either side of the prevailing central rate until February 1979 and since then by 5 percent. The change in the margin, which was necessitated by large and erratic fluctuations in major currency notes was expected to import a measure of stability to the exchange rate of rupee.

With the continuous fluctuations in the exchange rates of the currencies included in the basket the pound sterling rate was adjusted from time to time in line with the changes in the exchange rates of currencies in the basket for instance, the adjustment for exchange rate between rupee and pound – sterling was made on 13 February, 1989 when the middle rate was fixed at Rs. 26.70 per pound sterling. However, the basket link has helped to moderate the variation in the rupee rates. In order to discourage speculation in the foreign exchange markets on the likely changes in the rupeesterling rate and other foreign currency rates, the actual composition of the basket has not been disclosed.

**5. Exchange Rate Policy since 1991:**

Over the last few years significant changes have been brought to bear on the exchange rate resine as part of the overall strategy to improve the functioning of the financial system for this purpose a devaluation of rupee was undertaken in July 1991. Simultaneously the EXIM scrip scheme was introduced under which certain imports were permitted only against export entitlement. The merits of scheme was that, besides providing additional incentives to exporters through the premium on the scripts, it tried to establish a quantitative link between imports and exports. This was followed by a dual exchange rate arrangement which entailed the surrender of 40 percent of the exchange earnings at the official rate facilitating import of certain commodities at the official exchange rate. During the period of the LiberalizedExchange Rate Management System (LERMS) the foreign exchange market performed well. It equilibrated 60 percent of current receipts which were realized at the market exchange rate with a large section of imports, which had to be financed by foreign exchange obtained from the market. The LERMS introduced a partial convertibility of the rupee. In 1993-94 Budget rupee was made fully convertible on trade account. In august 1994 the rupee was made fully convertible on current account. Thus in March 1993 the dual exchange

rate system was dispensed with and the country moved to a single market determined exchange rate system.

The important changes introduced in the exchange rate regime since 1991 are discussed below:

**(1) Exchange Rate Adjustment of 1991:**

A downward adjustment of about 18 to 20 percent in the external value of the Indian rupee against the major currencies was effected in two steps on July 1 and 3, 1991.

The primary objective of the exchange rate adjustment was to strengthen the country's external payments position. It was expected to provide a reasonable incentive for export promotion and encourage efficient import substitution activities and at the same time to stem the flight of capital from India and discourage flow of remittances from abroad through illegal channels.

To restore the competitiveness of our exports and bring about a reduction in trade and current account deficits, a downward adjustment of the rupee had become inevitable. Thus, the RBI devalued Rupee in two steps in early July1991. On July 1, 1991 the value of the Rupee was lowered by 8 to 9 percent against the major currencies (the pound sterling, the US dollar, the deutsche mark, the Yen and the French fane) on July 3, 1991, the value of the Rupee was further lowered by 10 to 11 percent against the major currencies.

**(ii) Liberalised Exchange Rate Management System (LERMS):**

The LERMS was introduced in March 1992. It was a dual exchange rate system. Under LERMS, 40 percent of foreign exchange earnings of exports of goods and services are required to be surrendered at the official exchange rate and the remaining 60 percent can be sold at a market determined rate. The foreign exchange surrendered at official exchange rate is utilized to import essential items such as petroleum, fertilizers or life savings drugs. The foreign exchange converted at the market rate is available to finance all other imports.

The LERMS had been introduced as a transitional arrangement towards a unified exchange rate with current account convertibility.

## 8.7 SUMMARY

A well developed foreign exchange market is a pre-condition for ensuring smooth international trade. It also helps in expanding foreign trade. The exchange rate policy of a country must ensure the exporters and importers that there would be more or less stability in the exchange rate & thus less uncertainty about fluctuations in the exchange rate. Since 1991 India has experimented with dual exchange rate policy i.e. partly market determined exchange rate and partly fixed exchange rate policy. However in a phased manner the exchange rate now is completely determined by market forces

of demand & supply of foreign exchange. India has adopted full rupee convertibility on trade account and partial rupee convertibility on capital account. The inflows of foreign capital is broadly classified as portfolio investment and foreign direct investment (as the investment of capital inflows is concerned). Though there has been an increase in foreign portfolio investment, the foreign direct investment has not increased as per expectations. The prime reasons rare high transaction cost (corruption), delay in getting clearances etc.

## 8.8 QUESTIONS

1. Discuss the meaning and nature of foreign exchange market.?

2. Describe India‘s exchange rate policy since 1991.

3. Explain determination of exchange rate.

4. Write note on –

i) Spot Exchange Rate

ii) Forward Exchange Rate

iii) Fixed Exchange Rate

iv) Flexible exchange Rate.