S.Y.B.Com.

BUSINESS ECONOMICS - II

(w.e.f. academic year 2014-15 at IDOL)

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Macroeconomics : Theory and Policy

Objectives :

This course is designed to present an overview of macroeconomic issues and introduces preliminary models for the determination of output, employment, interest rates, and inflation. Monetary and fiscal policies are discussed to illustrate policy application of macroeconomic theory.

Module 1 Macroeconomics : Theory of Income & Employment :

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SECTION - II

Recent Issues of Indian Economy

Objectives :

This course is designed to present an overview of recent issues of Indian Economy. It provides a comprehensive and descriptive analysis of developments in various sectors of the Indian economy, since the reforms period. It particularly focuses on recent reform measures and its impact on national income growth, human development, agriculture, industry, services, banking and monetary policy.

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Module 1

MACRO ECONOMICS: THEORY OF INCOME AND EMPLOYMENT

Unit Structure :

1.0 OBJECTIVES

- To understand the process of income generation in an economy.

1.1 MEANING

The circular flow of money refers to the process whereby money payments and receipts of an economy flow in a circular manner continuously over a period of time. The various components of money payments and receipts are saving, investment, taxation, loans, government purchases, exports, imports, etc. These are shown on diagram in the form of current and cross-current in such a manner that the total money payments equals the total money receipts in the economy.

1.2 CIRCULAR FLOW OF INCOME

The modern economy is a monetary economy, where money is used in the process of exchange. The modern economy performs economic activities such as production, exchange, consumption and investment. In order to carry out these economic activities people are involved in buying and selling of goods and services. The transactions take place between different sectors of the economy. The process of production and exchange generates two kinds of flows.

1. Product or real flow, that is the flow of goods and services, and
2. Money flow.

Product and money flow in opposite direction in a circular way. The product flow consists of a) factor flow, that is flow of factor services and b) goods flow that is flow of goods and services. In a monetized economy the flow of factor services generates money flows in the form of factor payments which take the form of money flows. The factor payments and expenditure on consumer goods and services take the form of expenditure flow. Expenditure flow is in the form of money flow. Both income and expenditure flow in a circular manner in opposite direction. The entire economic system can therefore be viewed as circular flows of income and expenditure. The magnitude of these flows determines the size of national income. We can explain how these flows are generated and how they make the system work.

The economists, however use simplified models to explain the circular flow of income and expenditure dividing the economy into four sectors namely, I) Household sector, II) Business or Firms sector , III) Government sector, and IV) Foreign sector. These sectors are combined to make the following three models for the purpose of showing the circular flow of income.

I) Two- sector model including the household and business sectors;

II) Three- sector model including the household, business and government sectors; and

III) Four- sector model including the household, business, government and the foreign sectors.

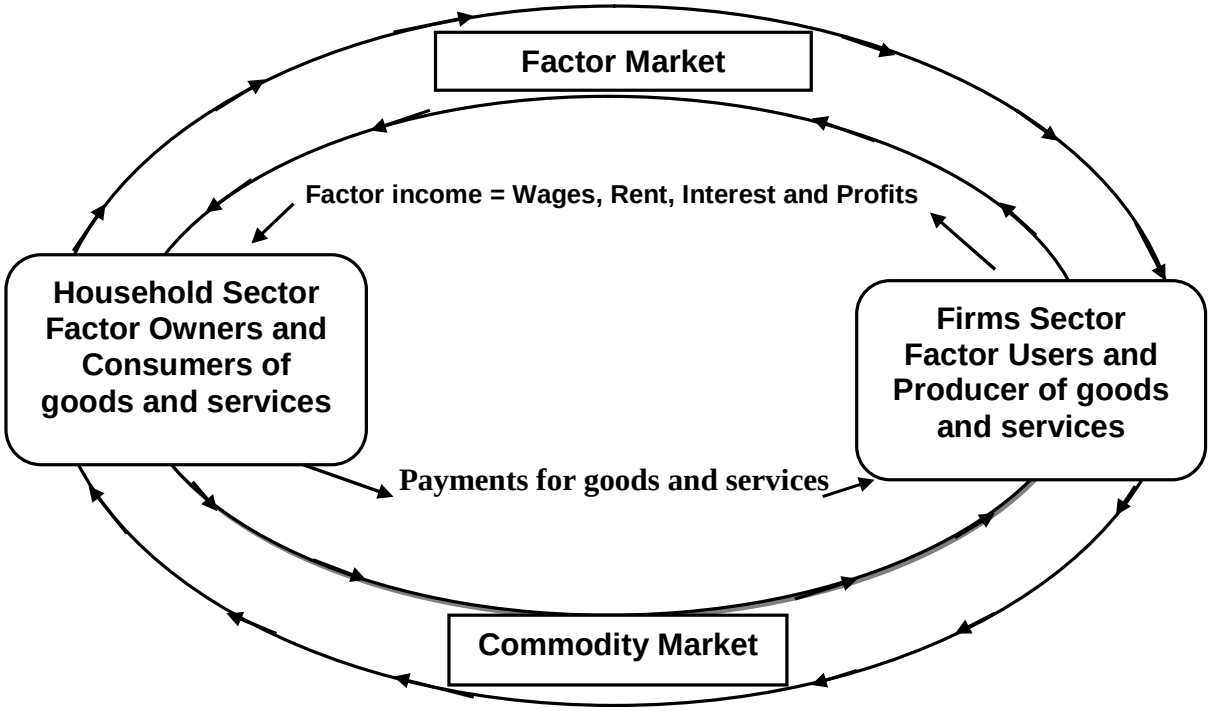
1.3 CIRCULAR FLOW OF INCOME AND EXPENDITURE IN A TWO – SECTOR ECONOMY MODEL

We begin with a simple hypothetical economy where there are only two – sectors, the household and business firms which represent a closed economy and there is no government and no foreign trade. The household sector owns all the factors of production that is land, labour, capital and enterprise. This sector receives income in the form of rent, wages, interest and profit, by selling the services of these factors to the business sector. The business sector consists of producers who produce goods and sell them to the household sector. The household sector consists of consumers who buy goods produced by the business sector.

Thus in the first instance, money flows in the form of such income payments as rent, wages, interest and profits from the business sector to the household sector when the former buys the services of the factors of production to produce goods. Money so received is, in turn, spent by the household sector to buy goods produced by the business sector. In this way money flows in a circular manner form the business sector to the household sector and from the household sector to the business sector in the economy.

The circular flow in a two sector economy is depicted in Fig. 1.1 where the flow of money as income payments from the business sector to the household sector is shown in the form of an arrow in the upper portion of the diagram. On the other hand, the flow of money as consumption expenditure on the purchase of goods and services by the household sector is shown to go the business sector by an arrow in the lower portion of the diagram. As long as income payments by the business sector for factor services are returned by the household sector to purchase goods, the circular flow of income payments and consumption expenditure tends to continue indefinitely. Production equals sales or supply equals demand, and the economy will continue to operate at this level in a circular flow of money.

Factors of Production- Land, Labour, Capital & Enterprise



Flow of goods and services
Fig. 1.1

The above analysis of circular flow of income and expenditure in a two – sector closed economy is based on following assumptions.

1. The economy consist of two sectors namely household and business or firms;
2. Household sector spends their entire income received in the form of rent, wages, interest and profits from the business sector on buying of goods and services produced by the firms. They do not hold or save any part of their income.
3. The business firms keep their production exactly equally to their sales or as much as demanded by the households. There are no changes in their inventories.
4. The business sector does not keep any undistributed money as reserve. The money it receives by selling goods and services to the household sector is fully spent in making payments as rent, wages, interest and profits to the household sector.
5. There are no government operations.
6. There is no inflow or outflow of income or no foreign trade.

It is these assumptions that keep the flow of money to move in a circular manner in the economy. But these assumptions are unrealistic and do not fit in the actual working of the economy.

1.4 CIRCULAR FLOW OF MONEY IN A TWO SECTOR ECONOMY WITH SAVINGS AND INVESTMENT

In the analysis of circular flow of income in a two sector economy, we have assumed that, all money income received by the households is spending on consumer goods and services. But in reality, the households do not spend their entire money income on goods and services. They save a part of their income for various purposes. Let us now explain if households save a part of their income, how their savings will affect money flow in the economy.

When households save, their expenditure on goods and services will decline to that extent and as a result money flow to business firms will contract. With reduced money income firms will hire fewer workers or reduce payments to the factors of production. This will lead to the fall in total income of the households. Thus, savings reduce the flow of money expenditure to business firms and cause a fall in economy's total income. Economist, therefore call savings a leakage from the money expenditure flow.

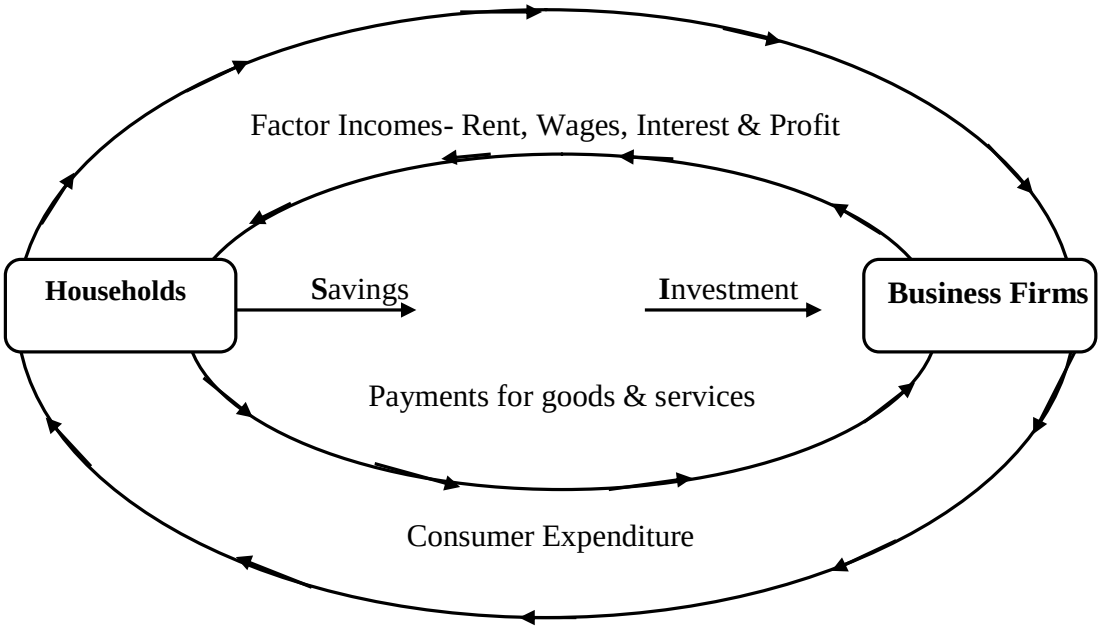
But savings by households will not reduce aggregate expenditure and income, if their savings are brought back into the flow of expenditure. In free market economies financial market consists of commercial banks, stock market and non-bank financial institutions etc. plays an important role of mobilization of savings, where households deposit their savings. On the other hand, business firms borrow money from the financial market for the purpose of investment. Thus, through the financial market savings and investment are again brought into the expenditure stream and as a result total flow of spending does not decrease. Circular flow of money with savings and investment is explained with the help of following assumptions.

1. All the households need to deposit their savings with the financial institutions\ market.
2. There are no inter-households borrowings.

In the following figure, in the middle of the circle a box represents financial market. Money flow of savings is shown from households towards the financial market. Then the flow of investment expenditure is shown as borrowing by business firms from the financial market.

The circular flow of money with savings and investment is shown in the following fig. 1.2.

Factors of production- Land, Labour, Capital & Entrepreneurship



Flow of goods & services
Fig.1.2

The necessary condition for the constant flow of income is savings must be equal to investment. As mentioned above, saving a part of income is not spent on consumer goods and services. In other words, saving is *withdrawal* of some money from the income flow. On the other hand, investment means some money is spent on buying new capital goods to expand production capacity. In other words, investment is *injection* of some money in circular flow of income. But savings and investments in an economy need not necessarily be equal.

If planned savings is more than planned investment expenditure, income, output and employment will fall and therefore, flow of money will decline. On the contrary, if planned investment expenditure is more than planned savings, income, output and employment will rise and therefore, flow of money will increase. Thus, the economy will be in equilibrium if planned savings is equal to planned investment expenditure.

It is clear from the above analysis that, the flow of money will continue at a constant level only when the condition of equality between planned savings and planned investment is satisfied.

1.5 CIRCULAR FLOW OF INCOME IN A THREE SECTOR ECONOMY

The two sector economy model consists of households and business firms. But in a three sector economy additional sector is government sector. Government affects the economy in many ways. Here we will concentrate on its taxing, spending and borrowing roles. In the modern economy government plays variety of role. Government performs different functions. For this it requires huge amount of income. Government receives income in the form of taxes from households and business firms. Taxes are paid by the households and business firms which not only reduces their disposable income but also their expenditure and savings.

Governments' spending includes expenditure on goods and services, pension payments, unemployment allowance etc. Money spent by Government is an injection of income into the economy which further received by the households and business firms.

Another important method of financing Government expenditure is borrowing from financial market. This is represented by money flow from the financial market to the Government is labeled as Government borrowing.

In a three sector economy we have the following three economic agents.

1. Households and business firms
2. Financial sector
3. Government

The circular flow of income in a three sector economy is shown in the following fig. 1.3.

Wages, Salaries & Payments Purchase of goods & services

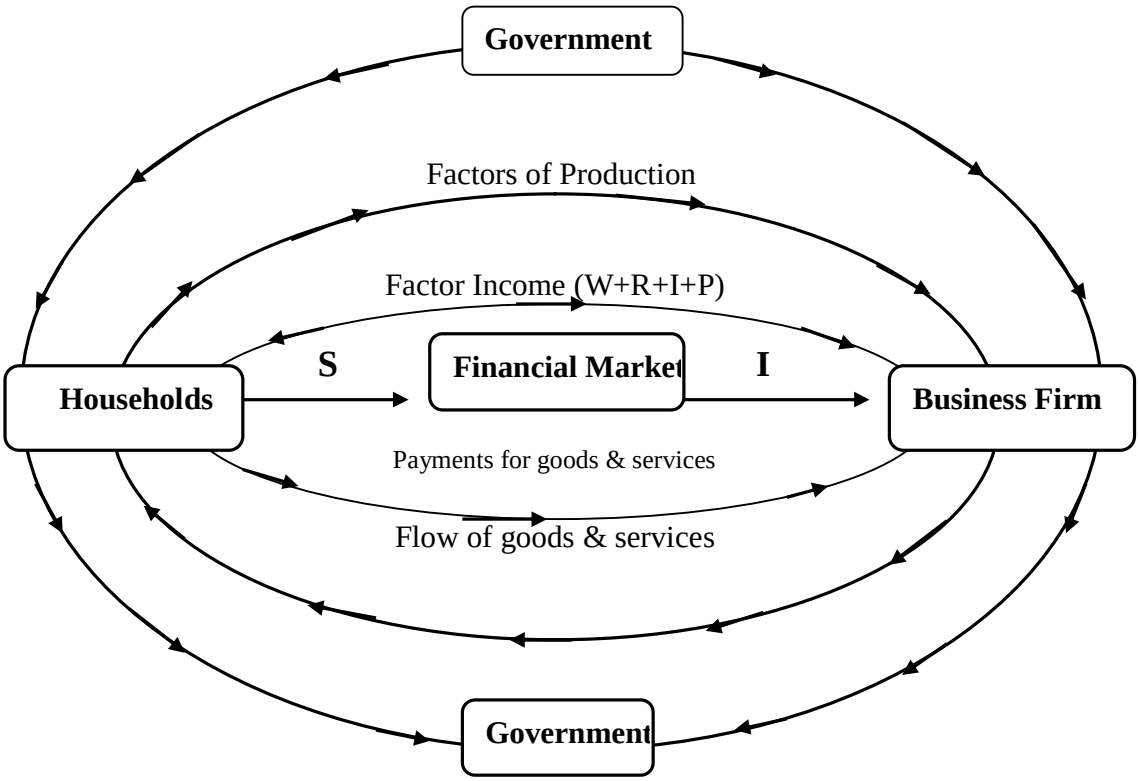


Fig. 1.3

The above figure clearly shows that, income received by the Government in the form of taxes from households and business firms is used for spending in the form of wages, salaries, allowances, pension, subsidies and purchases of goods and services from them. Money spent by the Government is received by the households and business firms.

Thus, the *leakages* (*withdrawal)* in the form of savings and taxes arise in the circular flow of income. The savings and taxes are further get *injected* back into the circular flow of income in the form of investment and Government spending. When these *leakages* (*withdrawal)* are equal to *injections* in the form of investment and Government spending the flow of money in the economy operates smoothly.

The inclusion of the Government sector significantly affects the overall economic situation. Total expenditure flow in the economy is the sum of consumption expenditure (C), investment expenditure (I), and Government expenditure (G).

Thus, it is symbolically expressed as,

$$\text{Total expenditure (E)} = C + I + G$$

Total income (Y) received is allocated to consumption (C), savings (S) and taxes (T).

Thus, symbolically expressed as,

$$Y = C + S + T$$

Since expenditure (E) made must be equal to the income received (Y) from equation above we have

$$C + I + G = C + S + T$$

Since C occurs on both sides of the equation and will therefore be cancelled out, we have

$$I + G = S + T$$

By rearranging we obtain

$$G – T = S – I$$

This equation is very significant because it shows what would be the consequences if Government budget is not balanced. If Government expenditure (G) is greater than the tax (T), the Government will have a budget deficit. To finance the budget deficit, the Government will borrow from the financial market. For this purpose, then private investment by business firms must be less than the savings of the households. Thus Government borrowing reduces private investment in the economy.

1.6 CIRCULAR FLOW OF MONEY WITH THE FOREIGN SECTOR OR CIRCULAR FLOW OF MONEY IN FOUR SECTOR OPEN ECONOMY

So far the circular flow of money has been shown in the case of a closed economy. But the actual economy is an open one where foreign trade plays an important role. Exports are an *injection* or inflows into the circular flow of money. They create incomes for the domestic firms. When foreigners buy goods and services produced by domestic firms, they are exports in the circular flow of money. On the other hand, imports are *leakages* from the circular flow of money. They are expenditure incurred by the household sector to purchase goods and services from foreign countries. These exports and imports in the circular flow are shown in fig. 1.4.

Take the inflows and outflows of the household, business and government sectors in relation to the foreign sector. The household sector buys goods imported from abroad and makes payments for them which is a leakage from the circular flow of

money. The householders may receive transfer payments from the foreign sector for the services rendered by them in foreign countries.

On the other hand, the business sector exports goods to foreign countries and its receipts are an injection in the circular flow of money. Similarly, there are many services rendered by the business firms to foreign countries such as shipping, insurance, banking etc. for which they receive payments from abroad. They also receive royalties, interest, dividends, profits, etc. for investment made in foreign countries. On the other hand, the business sector makes payments to the foreign sector for imports of capital goods, machinery, raw materials, consumer goods and services from abroad. These are the leakages from circular flow of money.

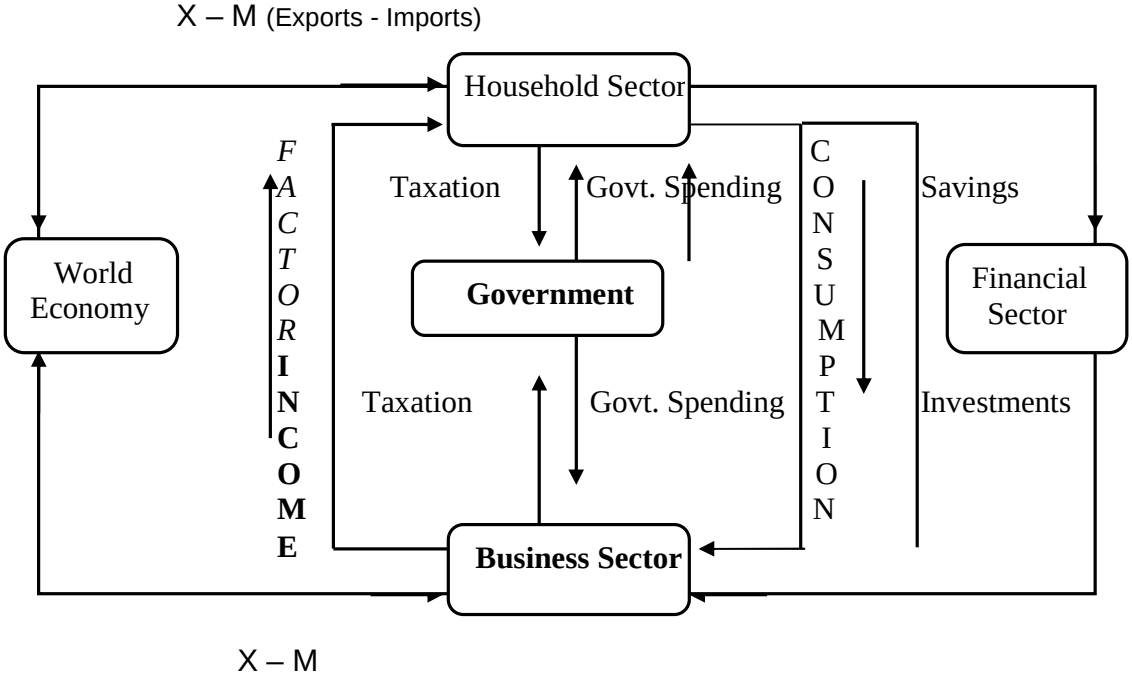


Fig.1.4

Like the business sector, modern governments also export and import of goods and services, and lend to and borrow from foreign countries. For all exports of goods, the government receives payments from abroad. Similarly, the government receives payments from foreigners when they visit the country as tourists and for receiving education, etc. and also when the government provides shipping, insurance and banking services to foreigners through the state-owned agencies. It also receives royalties, interests, dividends, etc. for investments made abroad. These are injections into the circular flow of money. On the other hand, the leakages are payments made to foreigners for the purchase of goods and services.

Figure 1.4 shows the circular flow of money in four sector open economy with saving at the right hand and taxes and imports at the left hand shown as leakages from the circular flow on the upper side of the figure, and investment, and government purchase (spending) on the right hand side and exports as injections into the circular flow, on the lower level left hand side of the figure. Further, imports, exports and transfer payments have been shown to arise from the three domestic sectors- the household, the business and the government. These outflows and inflows pass through the foreign sector which is also called the 'Balance of Payments Sector.'

Thus Figure 1.4 shows the circular flow of money where there are inflows and outflows of money, receipts and payments among the business sector, the household sector, the government sector, and the foreign sector in current s and cross- currents.

1.7 IMPORTANCE OF CIRCULAR FLOW OF INCOME

1. To understand the functioning of the economy - Money being the life blood of a modern economy, its circular flow gives a clear picture of the economy. We can know from its study whether the economy is working smoothly of there is any disturbance in its smooth functioning. The circular flow of money is important for studying the functioning of the economy and for helping the government in formulating polity measures.
2. To understand the link between producers and consumers – The circular flow of money establishes a link between producers and consumers. It is through money that producers buy the services of factors of production from the household sector and in turn household sector purchases goods and sector from the producers.
3. To find out the leakages in circular flow of income – Leakages or injections in the circular flow of money disturb the smooth function of the economy. For example, saving is a leakage out of the expenditure stream. If saving increases, this contracts the circular flow of money. This tends to reduce employment, income and prices thereby leading a deflationary process in the economy. On the other hand, consumption expenditure and investment are injections in the circular flow of money which help to increase employment, income, output and prices and thus lead to inflationary tendencies.
4. Highlights the importance of monetary and fiscal policies – The study of the circular flow of money also highlights the importance of monetary policy in bringing about the equality between savings and investment through the capital market. Similarly, it also points out the importance of fiscal policy in

bringing about the equality between saving plus taxes and investment plus government expenditure.

To conclude, the circular flow of money possesses much theoretical and practical significance in an economy.

1.8 SUMMARY

1. The circular flow of money refers to the process whereby money payments and receipts of an economy flow in a circular manner continuously over a period of time.
2. In the Two sector economy money flows in a circular manner form the business sector to the household sector and from the household sector to the business sector in the economy.
3. In a three sector economy we have the following three economic agents, Households and business firm, Financial sector, and Government.
4. The circular flow of money where there are inflows and outflows of money, receipts and payments among the business sector, the household sector, the government sector, and the foreign sector in current s and cross- currents.

1.9 QUESTIONS

1. Explain the process of income generation in a two sector economy.

2. Explain how income is generated in an open economy.

2

BUSINESS CYCLES

Unit Structure :

2.0 OBJECTIVES

- To understand the meaning, different features of a business cycle.
- To understand the different phases of a trade cycle.
- To understand the determination of the equilibrium of income.

2.1 INTRODUCTION

Almost all economies of the world have suffered from economic fluctuations at different stages of their economic growth. An important feature of a capitalist economy is the existence of business cycle. The business cycle is associated with fluctuations in macro economic activity. It may be noted that these fluctuations as ‘cycle’ are periodic and occur regularly. Cyclical fluctuations are wave like movements found in the aggregate economic activity of a nation. A business cycle is characterized by recurring phases of expansion and contraction in economic activity in terms of employment, output and income.

The period of high income, output and employment has been called the period of expansion, upswing or prosperity, and the period of low income, output and employment has been called the period of contraction, recession, downswing or depression. These altering periods of expansion and contraction in economic activity

have been called business cycle. They are also known as trade cycle. Trade cycle has been defined by different economist in different ways.

According to J.M. Keynes, “A trade cycle is composed of periods of good trade characterized by rising prices and low unemployment percentages with periods of bad trade characterized by falling prices and high unemployment percentages.”

In the words of Haberler, “The business cycle may be defined as an alternation of periods of prosperity and depression of good and bad trade.”

According to Schumpeter, “the business cycle represents wave like fluctuations in level of business activity from the equilibrium.”

According to Fredric Benham, “A trade cycle may be defined rather badly, as a period of prosperity followed by a period of depression. It is not surprising that economic process should be irregular, trade being good at some time and bad at others.”

2.2 FEATURES OF BUSINESS CYCLES

Though different business cycles differ in duration and intensity they have some common features which can explain below.

1. A business cycle is a wave like movement in macro economic activity like income, output and employment which shows upward and downward trend in the economy.
2. Business cycles are recurrent and have been occurring periodically. They do not show some regularity.
3. They have some distinct phases such as prosperity, recession, depression and recovery.
4. The duration of business cycles may vary from minimum of two years to a maximum of ten to twelve years.
5. Business cycles are synchronic. That is they do not cause changes in any single industry or sector but are of all embracing character. For example, depression or contraction occurs simultaneously in all industries or sectors of the economy. Recession passes from one industry to another and chain reaction continues till the whole economy is in the grip of recession. Similar process is at work in the expansion phase or prosperity.

6. There are different types of business cycles. Some are minor and others are major. Minor cycles operate for a period of three to four years and major business cycles operate for a period of four to eight years. Though business cycles differ in timing, they have a common pattern of sequential phases.
7. Expansion and contraction phases of business cycle are cumulative in effect.
8. It has been observed that fluctuations occur not only in level of production but also simultaneously in other variables such as employment, investment, consumption, rate of interest and price level.
9. Another important feature of business cycles is that downswing is more sudden than the changes in upswing.
10. An important feature of business cycles is profits fluctuate more than any other type of income. The occurrence of business cycles causes a lot of uncertainty for business and makes it difficult to forecast the economic conditions.
11. Lastly, business cycles are international in character. That is once started in one country they spread to other countries through trade relations between.

2.3 PHASES OF BUSINESS CYCLES

Business cycles have shown distinct phases, the study of which is useful to understand their fundamental causes. Generally, a business cycle has four phases.

1. Prosperity (Expansion, Boom, or Upswing)
2. Recession (upper turning point)
3. Depression (Contraction or Downswing) and
4. Revival or Recovery (lower turning point)

The four phases of business cycle are shown in the following figure. It starts from trough or lower turning point when the level of economic activity is at the lowest level. Then it passes through recovery and prosperity phase, but due to the causes explained below the expansion cannot continue indefinitely, and after reaching peak, recession and depression or downswing starts. The downswing continues till the lowest turning point and reaches to trough. It is important to note that no phase has any definite time period or time interval. Similarly any two business cycles are not the same.

The prosperity starts at trough and ends at peak. The recession starts at peak and ends at trough. One complete period of such movement is called as a trade cycle.

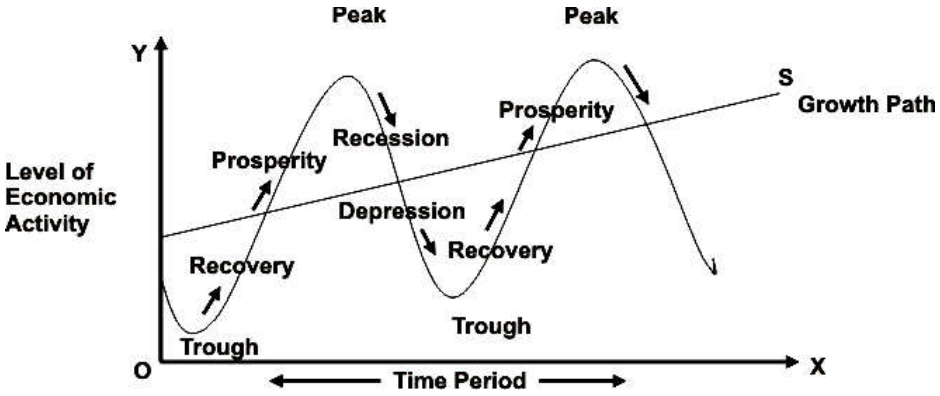


Fig. 2.1

Four phase of trade cycles are briefly explained as follows.

1. Prosperity – Prosperity is 'a stage in which the money income, consumption, production and level of employment are high or rising and there are no idle resources or unemployed workers.'

This stage is characterized by increased production, high capital investment, expansion of bank credit, high prices, high profit, a high rate of interest, full employment income, effective demand, inflation MEC, profits, standard of living, full employment of resources, and overall business optimism etc.

The prosperity comes to an end when forces become weak and therefore, bottlenecks start to appear at the peak of prosperity. Due to high profit, inflation and over optimism make the entrepreneurs to invest more and more. But because of shortage of raw material and scarcity of factors of production prices of goods and services rises. As a result there is fall in demand and profit, business calculations go wrong. Thus their over optimism is replaced by over pessimism. Thus prosperity digs its own grave.

2. Recession- When the phase of prosperity ends, recession starts. Recession is an upper turning point. This is a phase of contraction or slowing down of economic activities. Recession is generally of a short duration.

After boom, demand falls, production becomes excess and investment results in over investment. Finally, it leads to recession.

During this phase profit, investment and share prices falls significantly, Because of lack of investment the demand for bank credit, rate of interest, income employment, and demand for goods and services falls.

If recession continues for a long period of time then finally, it reaches to the phase of depression.

3. **Depression –** It is a period in which business or economic activity in a country is far below the normal. Depression is 'a stage in which the money income, consumption, production and level of employment falls, idle resources and unemployment increases.'

It is characterized by a sharp reduction of production, mass unemployment, low employment, falling prices, falling profits, low wages, and contraction of credit, fall in aggregate income, effective demand, MEC, a high rate of business failure and atmosphere of all round pessimism etc. The depression may be of a short duration or may continue for a long period of time.

After a period of time, moderate increase in the demand for goods and services helps to increase in investment, production, employment, income and effective demand. Finally, it leads to recovery.

4. Recovery – Depression phase is generally followed by recovery. Various exogenous and endogenous factors are responsible for reviving the economy. When the economy enters the phase of recovery, economic activity once again gathers momentum in terms of income, output, employment, investment and effective demand. But the growth rate lies below the steady growth path.

Thus, a recovery phase starts which is called the lower turning point. It is characterized by improvement in demand for capital stock, rise in demand for consumption good, rise in prices and profits, improvement in the expectations of the entrepreneurs, slowing rising MEC, slowly increasing investment, rise in employment, output and income, rise in bank credit, stock market becomes more sensitive and revival slowly emerges etc.

The phase of recovery once started, it slowly takes the economy on the path of expansion and prosperity. With this the cycle repeats itself.

Check your Progress :

1. What is a business cycle? What are its different features?
2. What is a business cycle? Explain the different phases of a trade cycle.

2.4 KEYNESIAN THEORY OF INCOME DETERMINATION

The concept of aggregate demand has propounded by J.M. Keynes in his famous book, 'The General Theory of Employment, Interest and Money' published in 1936. The analysis of Keynesian theory of effective demand is the analysis of aggregate demand.

In the Keynesian model of income determination he has assumed that, price level in the economy remains unchanged. Therefore, in the Keynesian theory which dealt with the short run, the level of income of the country will change as a result of changes in the level of employment.

The higher the level of employment, the higher will be the level of income. As the level of employment is determined by aggregate demand and aggregate supply, the level of income is also determined by aggregate demand and aggregate supply.

We shall now explain how the equilibrium level of income is determined through the interaction of aggregate demand and aggregate supply and changes in the equilibrium level of income and employment.

❖ Aggregate demand/ Equilibrium level of income in a Two – Sector Economy-

The two sector model includes only households and firms. An economy is said to be in equilibrium when the aggregate demand is equal to the aggregate supply during a given period of time. Let us study the aggregate demand and aggregate supply as follows.

Aggregate demand (AD) –

Aggregate demand is the total demand of the community for all goods and services produced in the economy. In a two sector economy, it comprises demand for consumer goods (C) and investment (capital) goods (I). Aggregate demand curve is represented by AD.

It is symbolically expressed as, AD = C+ I
Where C = consumption expenditure, I = Investment expenditure.

Aggregate demand is affected by many factors such as, the level of income, the rate of interest, the marginal efficiency of capital, the exchange rate, expected inflation, Govt. policy and business expectations etc.

Consumption expenditure depends upon the level of income which is symbolically expressed as,

$$C = f(Y).$$

It shows that consumption expenditure increases with increase in the level of income. Consumption function is stated as,

$$C = a + b\,Y.$$

In consumption function, C = aggregate consumption expenditure; Y = total disposable income. Intercept ***a*** is a positive constant. It denotes the level of consumption at zero level of income. The consumption at zero level of income is called autonomous consumption. In equation ***b*** is a positive constant. It denotes a constant MPC = $\Delta C/\Delta Y$. The MPC is less than one or unity but greater than zero, that is $O < b > 1$.

The saving function is the counterpart of the consumption function. It states that the relationship between income and saving. Therefore, saving is also the function of disposable income. That is,

$$S = f(Y)$$

Saving is that part of the residual income which is not spent on consumption. We know that, Y = C + S. Income is equal to consumption plus saving. Saving function is stated in the form of equation as,

$$S = Y - C$$

Saving is a function of income. At zero income, saving is negative. As the level of income increases, savings also increases. Amount of saving depends upon marginal propensity to save.

Aggregate Supply (AS) –

As mentioned above, in the short run the level of national income and employment in a free market economy depends upon the equilibrium between aggregate demand and aggregate supply. Now we shall turn to explain the aggregate supply and the factors on which it depends.

The aggregate supply means, 'the total money value of all the goods and services produced in an economy in a year.'

There are two important components of aggregate supply. They are-

1. The supply or output of final consumer goods and services in a year and

2. The output of capital goods / investment goods.

It is important to note that, aggregate supply is the same thing as national product (National Output). The aggregate supply of all goods in an economy depends upon factors like,- the stock of capital, the amount of labour used and the state of technology. In the short run the stock of capital and the state of technology remain constant and therefore, output can be increased by increasing the amount of labour employed. Aggregate supply is symbolically expressed as, Y = (N, K, and T)

Where Y is national output,

K = is the constant amount of capital stock and

T = is the constant state of technology.

N = is the amount of labour employed which is a variable factor.

Equilibrium level of National Income –

Now we shall explain how the equilibrium level of national income is determined by the interaction of aggregate demand and aggregate supply with the help of following diagram.

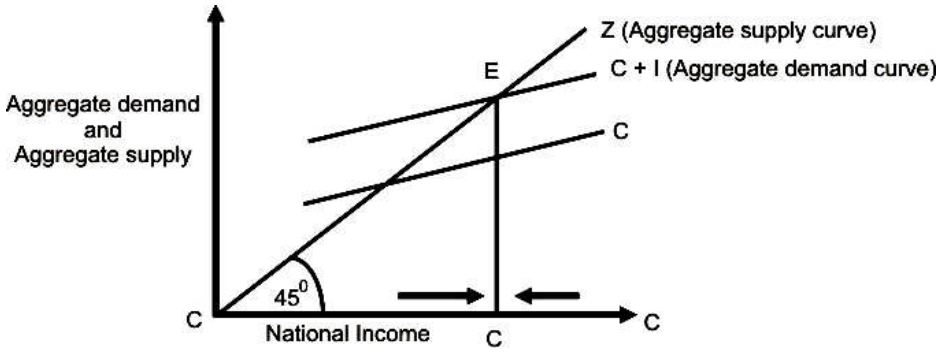


Fig. 2.2

In the above diagram, C+I is the aggregate demand curve and 45^0 OZ line is the aggregate supply curve. These two curves intersect each other at point 'E'. At this equilibrium point aggregate demand is equal to aggregate supply. At this equilibrium point the equilibrium level of national income is determined as OY.

Now national income cannot be in equilibrium at less than OY level of income. Because at any other level aggregate supply is less than OY, aggregate demand is more than aggregate supply since aggregate demand curve C+I lies above 45^0 line (AS curve). This excess demand will lead to decline in inventories of goods below the desired level. This fall in inventories will induce the firm to expand their output of goods and service (AS) till national income level OY is reached.

On the contrary, the level of national income cannot be more than OY because aggregate demand is less than aggregate supply.

This will lead to increase in inventories and will induce the firm to cut down production (to keep their inventories at the desired level) until the national income level OY is reached where AD (C+I) is equal to the value of AS. Thus, OY is the equilibrium level of national income.

❖ Aggregate demand/ Equilibrium level of income in a Three – Sector Economy-

In a two sector economy we have explained how the equilibrium level of national income is determined by the consumption function and autonomous investment expenditure. In a three sector economy Government's expenditure with all its economic activities plays an important role in the determination of equilibrium level of national income. It is important to note that, the magnitude of Government expenditure on highways, public parks, education, and health services is governed by the promotion of social welfare, employment and growth in the economy.

Government spends on goods and services on the one hand and collects revenue from tax which is the major source of income to the Government affects the consumption expenditure of the people. We can simplify the analysis treating the Government expenditure as autonomous expenditure. This expenditure results in an increase in aggregate demand. The aggregate demand in a three sector economy is stated as,

$$AD = C+I+G$$

G is the Government expenditure. The impact of Government expenditure on goods and services on the equilibrium level of national income in a three sector economy is shown in the following diagram.

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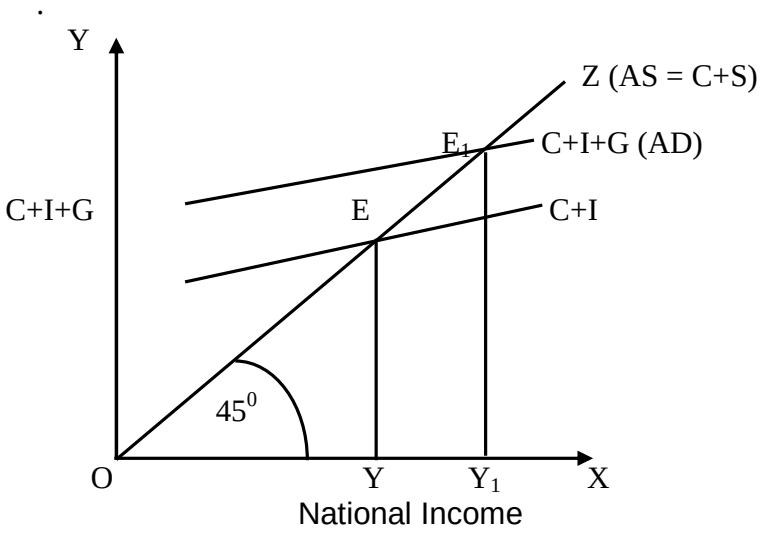


Fig.2.3

In the above diagram C+I is the original aggregate demand curve in a two sector economy. C+I+G is the new aggregate demand curve in a three sector economy. C+I+G aggregate demand curve intersect OZ aggregate supply curve at 'E_1' point. At this point the equilibrium level of national income is OY_1. It will be observed form the above diagram that, at less than OY_1 level of national income aggregate demand is more than aggregate supply. This implies decline in inventories of goods which will induce the firm to increase the production to the level of OY_1.

On the contrary, at the level of national income greater than OY_1, the aggregate demand is less than aggregate supply. This deficiency of demand for goods will lead to increase in inventories and will induce the firm to cut down production till the national income level OY_1 is reached where AD (C+I+G) is equal to the AS.

- **Aggregate demand/ Equilibrium level of income in a Four – Sector Economy-**

The analysis of the determination of equilibrium level of national income in two sector and three sector economy is limited only to a closed economy. But in reality no country can remain isolated from the rest of the world. Almost every economy has a foreign relation in respect of export, import, foreign investment, lending and borrowing which affect the level of national income. The exports (X) represent foreign demand and generate income for the exporting country. On the other hand, imports (M) represent the demand for foreign goods by the importing country and generate income for the people of other countries. Therefore, national income will depends upon the net earnings from foreign trade which is expressed as net exports (NX). However, in income determination exports and imports are considered as autonomous.

The increase in aggregate demand due to exports and decrease in aggregate demand due to imports depends on the net exports. If the net exports are positive, there will be an increase in aggregate demand of a country which shows shifts the AD curve upward to the right. This increase in aggregate demand results in an increase in national income. On the other hand, if the net exports are negative, there will be decrease in aggregate demand (expenditure) shifting the AD curve downwards. This will reduce the national income.

The aggregate demand or equilibrium level of national income in an open economy is stated as, AD = C + I + G + NX

The determination of equilibrium level of national income in an open economy is graphically presented as follows.

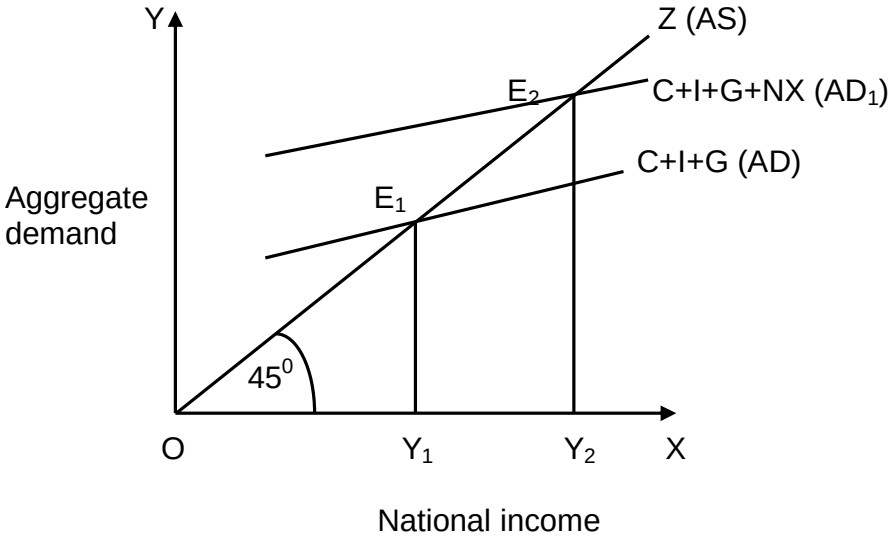


Fig.2.4

In the above diagram X axis represents national income and Y axis represents aggregate demand. There are two aggregate demand curves. AD curve shows aggregate demand in a three sector closed economy. Similarly, AD_1 curve shows aggregate demand in a four sector open economy. The closed economy is in equilibrium at point E_1 when C+I+G aggregate demand curve intersects OZ aggregate supply curve at Y_1 level of income. When the economy is open for international transactions, the aggregate demand curve in a closed economy C+I+G shifts upward to the right. The new aggregate demand curve C+I+G+NX intersects OZ aggregate supply curve at 'E_2' point. At this equilibrium point the level of national income will increase from OY_1 to OY_2.

If net exports (NX) are positive, the aggregate demand curve shifts upward to the right and results in higher level of national income. On the contrary if net exports are negative then the aggregate demand curve shifts downward to the left. The new equilibrium point will be at a lower point than E_2 and the national income will be less than OY_2.

According to Keynes, with a given aggregate supply, level of national income depends upon aggregate demand. The equilibrium level of national income is determined at a point where aggregate demand curve intersects aggregate supply curve.

2.5 SUMMARY

1. A business cycle is characterized by recurring phases of expansion and contraction in economic activity in terms of employment, output and income.

2. A business cycle has four phases:
   a) Prosperity (Expansion, Boom, or Upswing)
   b) Recession (upper turning point)
   c) Depression (Contraction or Downswing) and
   d) Revival or Recovery (lower turning point)

3. The analysis of the determination of equilibrium level of national income in two sector and three sector economy is limited only to a closed economy. But in reality no country can remain isolated from the rest of the world. Almost every economy has a foreign relation in respect of export, import, foreign investment, lending and borrowing which affect the level of national income.

4. According to Keynes, with a given aggregate supply, level of national income depends upon aggregate demand. The equilibrium level of national income is determined at a point where aggregate demand curve intersects aggregate supply curve.

2.6 QUESTIONS

1) What is the equilibrium level of income? How is the income determined?

3

THEORY OF MULTIPLIER

Unit Structure :

3.0 OBJECTIVES

- To understand the relationship between in the consumption, investment and the aggregate level of income.
- To understand the fluctuations in the aggregate level of income.

3.1 THEORY OF MULTIPLIER

The theory of multiplier was first developed by Prof. R.F. Kahn in 1931. It explains the effects of initial increase in investment on aggregate employment. Kahn's multiplier was thus known as 'employment multiplier.'

J.M. Keynes used the concept of multiplier to analyze the effects of change in investment on income via changes in consumption expenditure. Thus this multiplier came to be known as the investment multiplier. It may be defined as "the ratio of the change in income to the change in investment." It is symbolically expressed as, $K = \Delta Y / \Delta I$.

Where K = Stands for Multiplier, ΔY = change in income and ΔI= change in investment.

In an economy, when there is a small increase in investment, there would be multiplier increase in national income. For example, if the investment is increased by Rs. 4 cro. and if as a result, the national income increases by Rs. 20 cro. the value of 'K' (multiplier) will be 5. In other words, investment multiplier points out

that, national income will rise much more than the initial increase in investment. A part of this additional income is spent on consumption goods. Since, one man's expenditure is another man's income. The consumption expenditure of the people at the first round would become income of the people at the second round and so on.

Graphical Presentation -

The multiplier is depends upon the marginal propensity to consume (MPC). If the MPC is higher, the size of multiplier would be higher and vice versa. The concept of multiplier can be explained with the help of following diagram.

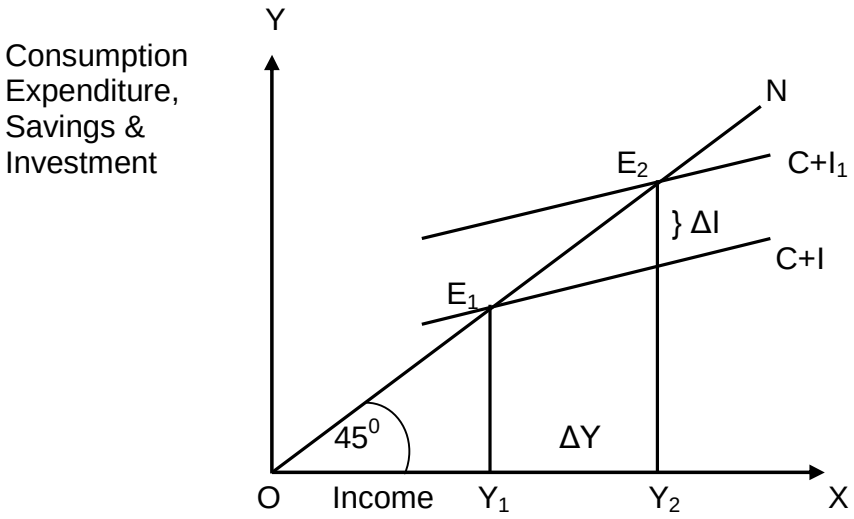


Fig. 3.1

In the above diagram, OX axis represents income and OY axis represents investment, consumption expenditure and savings. 45^0 line is known as consumption line. C+I is the initial investment curve which intersects ON line at E_1 point. When the investment is C+I the national income is OY_1. When there is an increase in investment from C+I to $C+I_1$ the national income would rise from OY_1 to OY_2.

Working of the Multiplier -

The working of 'K' is explained as under. The following table shows how there would be a multiplication in income according to income propagation assuming that MPC is half or 50% of the income with the initial investment of Rs. 200 crores.

Rounds	Initial investment	ΔY	ΔC	ΔS
1st	200 cro.	200	100	100
2nd		100	50	50
3rd		50	25	25
4th		25	12.50	12.50
5th		12.50	6.25	6.25
6th		6.25	….	….
Finally	200	400	200	200

The above table shows that the initial investment of Rs. 200 crores is the income of the people. Out of 200 crores 50% i.e. Rs. 100 crores is spent on consumption and remaining amount of Rs. 100 crores is saved. The consumption expenditure of the people at the first round would become income of the people at the second round. Again out of Rs. 100 crores Rs. 50 crores is spent on consumption and remaining Rs. 50 crores is saved. The consumption expenditure of the people at the second round would become income of the people at the third round. Again 50% of the income is spent on consumption and remaining 50% is saved. This process will go on and on till the initial income of Rs. 200 crores would not become zero.

Calculation of the Multiplier -

The value of 'K' or multiplier is equal to reciprocal of 1- MPC. It is symbolically expressed as, $K = \frac{1}{1-MPc}$ or $K = \frac{1}{MPs}$

If MPC is 4/5 then,

$K = \frac{1}{1-\frac{4}{5}}$

$K = \frac{1}{\frac{1}{5}}$, K = 5. The value of 'K' will be 5.

The following table would indicate the different values of 'K' at different MPC figures.

MPC	MPS	Value of 'K'
0	1	1
1/2	1/2	2
2/3	1/3	3
3/4	1/4	4
4/5	1/5	5

1/3	2/3	$1\frac{1}{2}$
3/5	2/5	$2\frac{1}{2}$
8/9	1/9	9
9/10	1/10	10
99/100	1/100	100
1	0	Infinity

So from this schedule it is clear that larger the MPC the greater would be the value of 'K' and vice versa.

Reverse working of the Multiplier -

So far, we have described the working of the multiplier in the forward direction. But the multiplier may work in the reverse or backward direction also. It means that a decrease in investment causes a multiple decrease in aggregate income. For example, if investment decreases by Rs. 10 cro., it will reduce the income by an equal amount. If MPC is half, consumption expenditure will fall by Rs. 5 cro. Thus reduction in investment leads to the reverse operation of the multiplier which causes a decrease in aggregate income. This is shown in the following figure with the help of saving and investment curves.

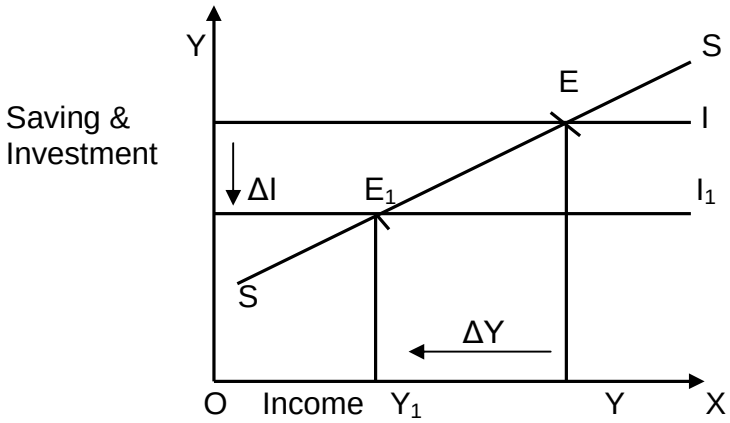


Fig.3.2

In the above diagram horizontal straight line is autonomous investment curve. SS curve is the saving curve. The I curve is the original investment curve which intersects SS saving curve at E point. At this point the equilibrium level of income is OY. When the investment decreases the original investment curve I shift downwards to the I_1. The new investment curve I_1 intersects the SS saving curve at E_1 point. At this equilibrium point the level of income decreases from OY to OY_1. The fall in income (ΔY) is a multiple of decline in investment (ΔI).

Thus in a community with lower MPC, the initial decline in investment will have greater adverse effect on the level of income and employment. However, MPC is less than one but greater than zero. This implies that people neither spend the full amount of extra income nor reduce consumption by the full decrement of income. Hence income and employment cannot continue to decline till to zero. This otherwise, reverse working of the multiplier would imply a complete collapse of the economy.

Assumptions-

The concept of multiplier is based on the following assumption.

1. The value of multiplier depends upon increase in investment.
2. It is assumed that the increase in investment has not further indirect effects on investment.
3. The calculation of multiplier depends on the assumption of a closed economy.
4. The MPC is constant.
5. There exists unemployment in the economy.
6. There is absence of multiplier period.
7. Keynes has assumed that, change in investment is of autonomous and not induced type.
8. It is assumed that the consumer goods are regularly made available.

Leakages in Multiplier Process –

The size or value of multiplier is reduced by the leakages in income stream on account of the following factors.

1. Savings- In actual life the people does not spend the entire increase in income on consumer goods. On the contrary they save a part of it. The saved portion of increased income does not get converted in investment. This limits the value of 'K'. Thus higher the propensity to save of the people lower shall be the value of 'K'.
2. Repayment of old debts – The income recipients may repay their old debts to lenders instead of spending their income on consumer goods. The value of 'K' is reduced if lenders who receive this money from the borrowers do not spend it.
3. Accumulation of idle cash deposits- A part of increased income may be saved in the form of idle bank deposit instead of spending their income on consumer goods. The value of 'K' is reduced if the bankers who receive this money do not spend on consumer goods.

4. Purchase of old assets – The income recipients may buy old assets such as shares and securities from the people who may not increase their consumption. This will reduce value of 'K'.
5. Excess of import – The import of foreign goods may be increase this will not help the domestic employment. This is because money is spent on foreign goods resulting in a net outflow of funds to foreign countries. This would reduce value of 'K'.
6. Inflation – The rise in prices would reduce additional money expenditure even to buy same amount of goods and services. Hence actual consumption may not increase. This will reduce value of 'K'.
7. High taxes – High rate of taxes may lead to decline in consumption expenditure and the value of 'K'.

Limitations -

1. Availability of consumer goods – The theory assumes that multiplier depends upon the availability of consumer goods. The shortage of consumer goods will not increase the consumption expenditure. Ultimately it will reduce the magnitude of multiplier.
2. Full employment level – The multiplier works in the economy where the level of income is low and unemployment is high. Once the economy reaches the level of full employment the multiplier fails to work. At this level any increase in investment will not increase aggregate output and employment. This will limit the value of 'K'.
3. Multiplier period – According to Keynes, when income of the people increases they spend a part of it on consumption and remaining amount is saved. But in reality there is time gap between the receipt of increased income and the expenditure on consumption. This time gap is called as multiplier period. The value of multiplier depends upon the multiplier period of the time gap. Longer the time gap, the smaller will be the value of 'K' and the smaller the time gap, the larger will be the value of 'K'.
4. Availability of resources – The concept of multiplier depends on the availability of resources for the production of consumer goods. But the shortage of resources will adversely affect the working of the multiplier and thus it will reduce the value of multiplier.

3.2 THE PRINCIPLE OF ACCELERATION

The principle of acceleration was propounded first by a French Economist Albert Aftalion in 1909. The principle is generally associated with the name of an American Economist J.M. Clark in 1917.

Multiplier and accelerator are parallel concepts. Multiplier shows the effect of change in investment on income (K = ΔY/ΔI). The accelerator shows the effect of change in consumption on investment.

The machine making industry depends on consumption goods industry. It states that a given increase in the demand for consumer goods in an economy generally leads to an accelerated increase in the demand for investment goods. The principal of accelerator may be defined as, "the ratio of change in investment to change in consumption." We can illustrate this with the help of a simple example.

An expenditure of Rs. 10 cro. on consumption goods industry leads to an increase of Rs. 20 cro. in investment goods industry. So we can say that the value of accelerator is 2. The value of acceleration depends upon the nature of investment goods. The principle of accelerator is symbolically expressed as, $a = \frac{\Delta I}{\Delta C}$.

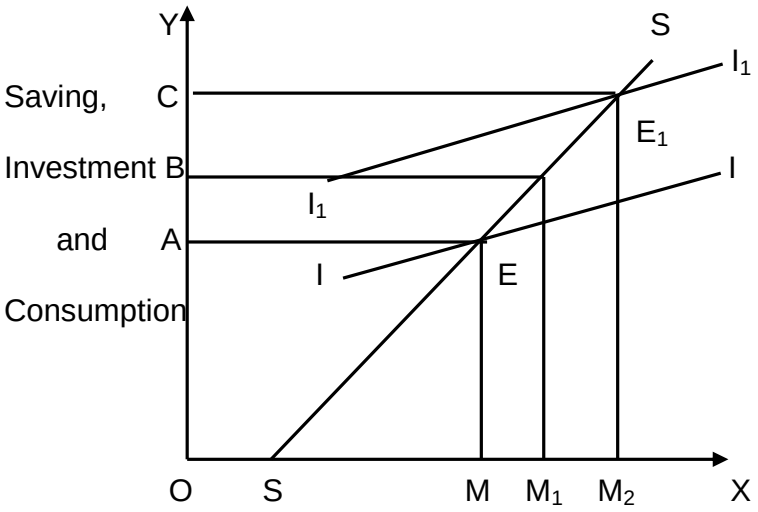
Where a = stands for acceleration co-efficient
ΔI = change in investment expenditure
ΔC = change in consumption expenditure
As stated above 20/10= 2 is the value of accelerator.

The operation of the principle of accelerator may be illustrated by the following example.

Let us suppose that, in order to produce 1000 consumer goods 100 machines are required. We further suppose that, the working life of a machine is 10 years and after 10 years the machine has to be replaced. This means that every year 10 machines have to be replaced. While the demand for consumer goods remained stable the annual demand for machines would be 10. This might be called as replacement demand. Now let us suppose that the demand for consumer goods rises by 10%, naturally more machines will be required to meet the increased demand for consumption goods. We shall now need 10% or 10 more machines to increase the production of consumer goods. The annual demand for machines will thus rise from 10 to 20 (10 machines for replacement demand and 10 machines for meeting the increased demand for consumer goods). The demand for machines shall be 20 which represent an increase of 100%. The point to be noted here is that a comparatively small rise of 10% in the demand for consumer goods causes a rise of 100% in the demand for machines.

Accelerator states that, the changes in the demand for investment goods are larger than the changes in the demand for consumer goods industries.

The principle of accelerator can be explained with the help of following diagram.



Income Level
Fig.3.3

In the above diagram, SS is the saving line slopes upward from left to right. II and I_1I_1 are investment curves. OX axis represents savings, investment and consumption. In this diagram II investment curve intersects SS saving curve at point 'E'. At this equilibrium point OM is the equilibrium level of income and savings and investment both are equal to each other (OA). However AB increase in investment is exogenous investment. An increase in investment from OA to OB pushes the income level from OM to OM_1. An increase in investment from II to I_1I_1, the new investment curve I_1I_1 intersects SS saving line at point E_1. At this equilibrium point, the equilibrium level of income is OM_2 and OC is the saving and investment. An increase in investment from OB to OC is induced investment. As a result, income level rises from OM_1 to OM_2. MM_1 portion of increase in income is due to multiplier effect and M_1M_2 increase in income is due to accelerator effect. This increase in income is because of induced investment.

In short, the principle of accelerator shows the change in investment to the change in consumption.

Working of the Accelerator –

The working of the accelerator is explained by a hypothetical example based on the following assumptions.

1. Current demand for consumption goods is 1000 units.
2. To maintain a constant flow of 1000 consumer goods, 100 machines (capital goods) are required.
3. The capital output ratio remains constant and is equal to 1: 10. The acceleration co-efficient is 1.
4. The average life of a machine is 10 years. After 10 years machines have to be replaced means 10 machines are needed a very year.
5. Any increase in demand for consumer goods will require additional machines besides replacement demand.

Working of the Accelerator

Period	Consumption goods units	Capital required	Replacement investment	Induced investment	Total investment
0	1000	100	10	0	10
1	1000	100	10	0	10
2	1100	110	10	10	20
3	1200	120	10	10	20
4	1300	130	10	10	20
5	1500	150	10	20	30
6	1700	170	10	20	30
7	1900	190	10	20	30
8	2000	200	10	10	20
9	1900	190	10	-10	0

The above table shows total output of consumption goods, net capital investment and total investment. When consumption demand rises by 10% in period 2, total investment rises to 20 that is 100% increase in investment. In period 3 and 4 the demand for consumption goods rises by 10% but total investment remains at 20. It shows that the total output of consumption goods rises at the same rate. In period 5, 6 and 7the absolute increase in output of consumption goods is higher than the earlier periods. The total investment rises further to 30 units of capital. In period 8, the demand for consumption goods rises by 10% only. As a result, the total investment falls to 20 units because the absolute increase in

output is lower. If the demand for final goods falls by 10% in period 9, the net investment is negative. Hence, the total investment becomes zero.

It is clear from the above table that, net investment depends on the changes in total output of consumption goods, given the acceleration co-efficient. Further net investment is positive so long as the demand for consumption goods rises. However, when it falls, net investment is negative. It is important to note that in general a small change in the demand for consumption goods leads to substantial change in induced investment depending upon the acceleration co-efficient.

Limitations –

Generally, the principle of accelerator works in a way as explained above. However, in reality it is difficult to find out the working of the acceleration. The operation of the principle of acceleration has certain limitations.

1. The life of machine used for producing consumer goods is an important factor in the analysis of principle of acceleration. But in practice it is very difficult to decide accurate life of the machine.
2. If the capacity of machines is in excess of actual requirements, the increase in demand for consumers' goods would not necessarily lead to increase in investment. The increased demand can be met by using the excess capacity.
3. If the demand for consumers' goods is purely temporary in nature, then there would be no rise in investment. In such a case, a producer would overwork the existing machinery and thus avoid additional investment.
4. In certain cases, the investors do not wait for changes in the rate of consumption and therefore, investment is made sufficiently in advance assuming that the demand would increase in future. Generally, this happens in case of the public sector undertakings.
5. The principle is based on the assumption that the ratio between consumption and investment remains constant. But in reality, it hardly happens.
6. If the economy operates at level of full employment or near that level, the principle of acceleration would have little scope.

In spite of all these limitations, the principle of acceleration is considered as a useful tool of economic analysis.

3.3 SUPER MULTIPLIER

Combined Effects of Multiplier and Accelerator –

The principles of multiplier and accelerator are useful for understanding the dynamic process of income generation. The principle of multiplier explains the effect of change in initial investment on final increase in income. On the other hand, the principle of accelerator explains the effect of change in consumption on the level of investment and further on income and employment. This clearly shows that, the principle of multiplier explains only one aspect of income generation. But the principle of accelerator revels two important aspects namely- income and employment. Hence, in order to measure the total effect of initial investment on national income it is necessary to combine the effects of multiplier and accelerator.

The combined working shows that on the one hand the autonomous investment raises income through consumption expenditure as a result of multiplier effect. This induced consumption expenditure further leads to an increase in induced investment. This generates more income as a result of accelerator effect. Again multiplier works because of increase in investment and similarly, expands the increase in income and employment. This leads to a flow of induced investment.

This effect of combined operation of the multiplier and acceleration is called the 'Leverage Effects' or the super multiplier. This leverage effects brings about the accelerated change in income and employment.

The process of income propagation by way of the multiplier and accelerator principles can be explained with the help of following example. Let us suppose that, the MPC is half or 50%. The acceleration co-efficient is 2 e. i. capital-output ratio is 2:1 and the initial investment expenditure is `. 100 crores.

The Following table shows that the initial investment expenditure of `. 100 cro. generates an equal amount of increase in income i.e. ` 10 cro. The induced consumption expenditure in the first period from this increased income will be ` 50 crores because MPC is half and the induced investment is ` 100 crores. The acceleration co-efficient is 2 and income increases to ` 250 crores (100 + 50 +100 = 250).

Combined Effects of Multiplier and Accelerator

(`In Crores)

Multiplier period	Initial Investment	Induced consumption	Induced investment	Total increase in National Income
0	100	0	0	100
1	100	50	100	250
2	100	125	150 (2 X75)	375
3	100	187.50	125 (2 X 62.50)	412.50
4	100	206.25	37.50 (2 X 187)	343.75

Further, in the second period, the induced consumption expenditure form this increased income is `125 cro. as the MPC is 50% of the income. But, consumption in period 2 is a function of income of the previous period. Therefore, the actual increase in consumption in period 3 is the difference between the period 2 and 1 i.e. 125 - 50 = 75. Hence the induced investment is `150 crores because the value of co-efficient is 2 and income increases to `375 crores (100 + 125 + 150 = 375).

In this way, total income reaches the peak level of `. 412.50 crores in the third period. However, income starts falling from fourth period as the induced investment declines. The effect of induced investment comes to an end after a certain period.

The consumption expenditure falls further and thus the acceleration effect becomes negative. However, income will once again start rising due to autonomous investment.

The above table revels that induced investment will be high in the initial stages when consumption is quite high. But when additional consumption expenditure is not high enough in the later stages the induced investment will gradually fall.

The following diagram shows combined operation of the multiplier and accelerator.

In the above diagram the horizontal lines II and I_1I_1 are autonomous investment of the multiplier. Further, the saving curve SS intersects II investment curve at E point. At this point the equilibrium level of income is OY at which S = I. When investment increases to I_1I_1, it intersects SS curve at E1 point. At this new

equilibrium point the level of income increases from OY to OY1. Therefore, increase in income YY_1 is the multiplier effect.

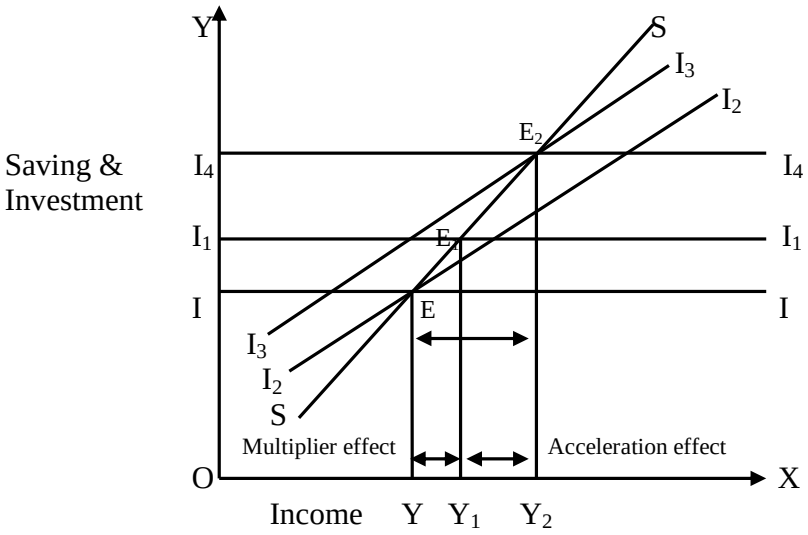


Fig. 3.4

On the other hand, in case of acceleration principle, the induced investment is shown by the rising curve I_3I_3. It shows that when autonomous investment I_1I_1 is undertaken the rising curve I_3I_3 intersects SS curve at E_2 point. The horizontal line I_4I_4 shows induced investment. At this equilibrium point E_2 the level of income is OY2 which indicates that induced investment brings about further increase in income from OY1 to OY2. Thus, Y1 Y2 is the acceleration effect and YY2 is the super-multiplier effect.

3.4 SUMMARY

1. The theory of multiplier was first developed by Prof. R.F. Kahn in 1931. It explains the effects of initial increase in investment on aggregate employment. Kahn's multiplier was thus known as 'employment multiplier.'
2. J.M. Keynes used the concept of multiplier to analyze the effects of change in investment on income via changes in consumption expenditure. Thus this multiplier came to be known as the investment multiplier. It may be defined as "the ratio of the change in income to the change in investment." It is symbolically expressed as, $K = \Delta Y / \Delta I$.
3. The principle of acceleration is generally associated with the name of an American Economist J.M. Clark in 1917. Multiplier and accelerator are parallel concepts. Multiplier shows the effect of change in investment on income ($K = \Delta Y/\Delta I$). The accelerator shows the effect of change in consumption on investment.

4. The effect of combined operation of the multiplier and acceleration is called the 'Leverage Effects' or the super multiplier. This leverage effects brings about the accelerated change in income and employment.

3.5 QUESTIONS

1. What is investment multiplier? Explain the working of investment multiplier.
2. What do you understand by 'acceleration principle'? Explain the working of accelerator.
3. How is super multiplier defined? Examine the working of super multiplier in explaining the business cycles.

4

Module 2

MONETARY ECONOMICS

Unit Structure

4.0 OBJECTIVES

- To study the concept of money supply
- To understand the constituents of money supply
- To study various determinants of money supply
- To study the concept of velocity of circulation of money and its factor determinants

4.1 CONCEPT OF MONEY SUPPLY

Money supply refers to the amount of money which is in circulation in an economy at any given time. It is the total stock of money held by the people consisting of individuals, firms, State and its constituent bodies except the State treasury, Central Bank and Commercial Banks. The cash balances held by the Federal and federating governments with the Central Bank and in treasuries are not considered as part of money supply because they are created through the administrative and non-commercial operations of the government. Further money supply refers to the disposable stock of money. Therefore money supply is stock of money in circulation. Money supply can be looked at from two points of views, namely, money supply as a stock and money supply as a flow. Thus at a given point of time, the total stock of money and the total supply of money is different.

Money supply viewed at a point of point is the stock of money held by the people on a given day whereas money supply viewed overtime is viewed as a flow. Units of money are spent and re-spent several times during a given period. **The average number of times a unit of money circulates amongst the people in a given year is known as Velocity of Circulation of Money.** The flow of money is measured by multiplying the stock of money with the coefficient of velocity of circulation of money.

4.2 CONSTITUENTS OF MONEY SUPPLY

There are two approaches to the constituents of money supply. They are the traditional and the modern approaches.

1. **Traditional Approach:** According to the traditional approach, the money supply consists of currency money consisting of coins and notes and bank money consisting of checkable demand deposits with commercial banks. The currency money is considered high powered money because of the legal backing of the State. The Central Bank of a country issues currency notes and coins because it has the monopoly of note and coin issue. The supply of money in a country depends upon the system of note issue adopted by the country. For instance, India adopted the Minimum Reserve System in 1957. Under this system, the Reserve Bank of India has to maintain a minimum reserve of `.200 Crores consisting of gold and foreign securities. Out of this, the value of gold should not be less than `.115 Crores. With this reserve, the Reserve Bank of India has the power to issue unlimited amount of currency in the country.

   Checkable demand deposits of commercial banks are used in the settlement of debt. Payments made through checks change the volume of demand deposits by creating derivative deposits. The creation of demand deposits is determined by the credit creation activities of the commercial banks. Bank money is considered as secondary money whereas cash money is known as high powered money. Thus according to the traditional approach, the total supply of money is the sum of high powered money and secondary money or currency and bank money. The ratio of bank money to currency money depends upon the extent of monetization, banking habits and banking development in a country. In advanced countries, ratio of bank money to currency money is high whereas in poor countries the ratio of currency money to bank money is high.

2. **The Modern Approach:** According to the modern approach, money supply includes currency money and near money. Money supply therefore consists of coins, currency notes,

demand deposits of commercial banks, time deposits of commercial banks, financial assets, treasury bills and commercial bills of exchange, bonds and equities.

RESERVE BANK OF INDIA'S APPROACH TO THE MEASUEMENT OF MONEY SUPPLY:

According to the Reserve Bank of India since its inception in 1935, money supply in the narrow sense of the term was the sum of currency with the people and demand deposits with the commercial banking system. Narrow money was denoted by the RBI by M_1. In 1964-65, the concept of broad money or aggregate monetary resources was introduced. Broad money was considered equal to M_1 + Time deposits with commercial banks. In March, 1970 the RBI accepted the report of the Second Working Group on Money Supply. This report was published in the year 1977 and it gave a broad definition of money supply. Accordingly, four measures of money supply were brought into effect.
These four measures are as follows:

1. M_1 = Currency with the public + Demand deposits with the commercial Banks + Other deposits with the RBI.

2. M_2 = M_1 + Post Office Savings Bank Deposits.

3. M_3 = M_1 + Time deposits with the commercial banks.

4. M_4 = M_3 + Total Post Office Deposits (excluding NSCs).

The Reserve Bank of India gives importance to narrow money (M_1) and broad money (M_3). Narrow money excludes time deposits because they are not liquid and are income earning assets while broad money includes time deposits because some liquidity is involved in it as these assets earns interest income in future. Since time deposits have become convertible in recent times, they have become more liquid than what they were before. The M_2 and M_4 measures of money supply include post office savings and other deposits with the post offices.

The third working group on money supply recommended the following measures of monetary aggregates through their report submitted in 1998:

1. M_0 =Currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI. (M_0 is compiled on weekly basis).

2. M_1 =Currency with the public + Demand deposits with the bankingSystem + Other deposits with the RBI = Currency

with the public + Current deposits with the banking system + Demand liabilities Portion of Savings Deposits with the banking system + other Deposits with the RBI.

3. M_2 = M_1 + Time liabilities portion of saving deposits with the banking System + Certificates of deposits issued by the banks + Term Deposits [excluding FCNR (B) deposits] with a contractual maturity of up to and including one year with the banking system =Currency with the public + current deposits with the banking System + Savings deposits with the banking system + CertificatesOf Deposits issued by the banks + Term deposits [excluding

FCNR (B) deposits] with a contractual maturity up to and Including one year with the banking system + other deposits with the RBI.

4. M_3 = M_2 + Term deposits [excluding FCNR (B) deposits] with a Contractual maturity of over one year with the banking system +Call borrowings from Non-depository financial corporations by the Banking system. (M_1, M_2 & M_3 are compiled every fortnight).

In addition to the monetary measures stated above, the following liquidity aggregates to be compiled on monthly basis were also recommended by the working group:

1. L_1 =M_3 + All deposits with the Post Office Savings Banks (excluding National Savings Certificates).

2. L_2 = L_1 + Term deposits with Term lending institutions and refinancing Institutions (FIs) + Term borrowing by FIs + Certificates of Deposits issued by FIs.

3. L_3 =L_2 + Public deposits of Non-banking Financial Companies. (L_3 is compiled on quarterly basis).

4.3 DETERMINANTS OF MONEY SUPPLY

Currency in circulation and demand deposits are the main constituents of money supply. While the demand deposits are created by the commercial banks, currency is issued by the Central Bank and the Government. The supply of money is determined by the following factors:

1. **Size of the Monetary Base:** Money supply depends upon the size of the monetary base. The monetary base refers to the group of assets which empowers the monetary authorities to issue currency money. Money supply changes with changes in

the monetary base. The monetary base of an economy consists of monetary gold stock, reserve assets such as government securities, bonds and bullion, foreign exchange reserve with the central bank and the amount of central bank's credit outstanding. In the present times, gold stock is not considered as part of the monetary base.

2. **Community's Choice:** The relative amount of cash and demand deposits held by the people also influences the supply of money. If the people prefer to make check payments much more than cash payments, the total money supply maintained by a given monetary base would be larger and vice versa. Since money deposited in commercial banks generates derivative deposits and expand the supply of bank money through the credit multiplier, people's preference of bank money to cash would increase the supply of money. However, the choice of the community is determined by factors such as banking habits, per capita income, availability of banking facilities and the level of economic development. If these factors are developed, the money supply would be larger and vice versa.

3. **Extent of Monetization:** Monetization refers to the use of money as a medium of exchange. The choice of the community for money as a liquid asset depends upon the extent of monetization of the economy. If monetization is high, demand for money would be high and vice versa.

4. **Cash Reserve Ratio:** The Cash Reserve Ratio refers to the ratio of a bank's cash holdings to its total deposit liabilities. It determines the coefficient of the credit multiplier. The CRR is determined by the Central Bank of a country. The credit multiplier (m) is determined as the reciprocal of the CRR (r). Therefore m = 1/r. Excess funds with the commercial banks multiplied by the credit multiplier will give us the extent of credit creation by the commercial banks. Lower the CRR, greater will be value of the credit multiplier and therefore greater will be the supply of bank money and vice versa.

5. **Monetary Policy of the Central Bank:** Monetary policy is defined as the policy of the Central Bank with regard to the cost and availability of credit in the economy. The monetary policy of the Central Bank of any country will be according to the macro-economic conditions. Thus under inflationary conditions, the Central Bank may follow restrictive monetary policy and thereby reduce the supply of bank money by pursuing both qualitative and quantitative measures of controlling money supply. Similarly under recessionary conditions the Central Bank may follow expansionary monetary policy and thereby raise the supply of money in the economy.

6. **Fiscal Policy of the Government:** Fiscal Policy is defined as a policy concerning the income and expenditure of the government. While the government raises revenue through various sources like different types of taxes, borrowing and through deficit financing, it spends the money raised for various developmental and non-developmental purposes. When the government raises revenue by imposing fresh taxes or by raising the existing level of taxes, it helps to reduce money supply. Similarly, market borrowing by the government reduces money supply and raises the market interest rates. This is known as the crowding out effect of government borrowing. When the government spends the money so raised, money supply increases. However, when the government runs a deficit budget, it adds to the existing stock of money supply and thus raises the supply of money in the economy. The opposite will be the impact of a surplus budget but surplus budgets are a rarity in modern times.

7. **Velocity of Circulation of Money:** Velocity of circulation of money refers to the average number of times a unit of money as a medium of exchange changes hands during a given year. Money supply is measured as total money in circulation multiplied by the velocity of circulation ($M \times V$). Thus higher the velocity of circulation of money, higher will be the money supply and vice versa.

4.4 VELOCITY OF CIRCULATION OF MONEY

The velocity of circulation of money determines the flow of money supply in an economy in a given period of time, normally such a period is one year. The average number of times a unit of money changes hands is known as the velocity of circulation of money. The supply of money in a given period is obtained by multiplying the money in circulation with the coefficient of velocity of circulation i.e., $M \times V$ where M refers to the total amount of money in circulation and V refer to the velocity of circulation of money in the given period.

Factors Determining Velocity of Circulation of Money: The velocity of circulation of money is determined by the following factors:

1. **Time Unit of Income Receipts:** The more frequently people receive income, the shorter will be the average time period of holding money and greater will be the velocity of circulation of money. Thus if in a given society large number of people receive income on daily basis, the velocity of circulation of money would be higher than the one in which people receive income on weekly, fortnightly or monthly basis.

2. **Method and Habits of Payment:** The velocity of circulation of money would be high if large number of people prefers to make payment on installment basis. As a result, the same unit of money will change hands more often than when payments are made in full.

3. **Regularity of Income Receipts:** If in a society people receive income on a regular basis, they will spend their current income without bothering about future and hence the velocity of circulation of money would be high. However, if future income receipts are uncertain, people will not spend more money in the present and hence the velocity will be less.

4. **Saving Habits of the People:** If the marginal propensity to save is high in a society, then the people will be spending less in the present and hence the velocity will be less. Similarly, if the marginal propensity to consume is high the people will spend more and the velocity of circulation of money will be high.

5. **Income Distribution:** Income distribution may be more equal or more unequal in a society. If inequalities of income are high in a society with the top 20 % taking away a major portion of the national income, velocity of circulation of money would be low because the richer sections of the society will be holding more idle cash balances. However, if income distribution is more equal or less unequal, the bottom 40% of the people will receive more incomes and spend more thereby increasing the velocity of circulation of money.

6. **Development of Banking and Financial System**: If the banking and financial institutions in a country are well developed, mobilization of savings can be effectively carried out and more credit made available to the needy. This not only prevents hoarding of cash balances but also increases the velocity of circulation of both currency and bank money.

7. **Business Cycle:** During the prosperity phase of the business cycle, investment, output, income, employment and prices rise. Thus the velocity of circulation of money would be high during the prosperity phase. However, during the downturn of the business cycle, investment, output, income, employment and prices begin to decline thereby reducing the velocity of circulation of money.

8. **Liquidity Preference of the People:** If the liquidity preference of the people is high i.e., if they wish to hold a greater part of their income in the form of idle cash balances, the velocity of circulation of money would be low and vice versa.

9. **Speedy Clearance of Checks and Transfer of Funds:** A more advanced banking system would help speedy clearance of checks and transfer of funds from one account to another account, thereby increasing the velocity of circulation of money.

4.5 SUMMARY

1. Money supply refers to the amount of money which is in circulation in an economy at any given time. It is the total stock of money held by the people consisting of individuals, firms, State and its constituent bodies except the State treasury, Central Bank and Commercial Banks.
2. There are two approaches to the constituents of money supply. They are the traditional and the modern approaches.
3. The supply of money is determined by the following factors: Size of monetary base, Community's choice, Extent of monetization, Cash Reserve Ratio, Monetary policy of the Central Bank, Fiscal policy of the Government, Velocity of circulation of money.
4. The velocity of circulation of money determines the flow of money supply in an economy in a given period of time, normally such a period is one year.
5. Factors determining velocity of circulation of money: Time unit of income receipts, Method and habits of payment, Regularity of income receipts, Saving habits of the people, Income distribution, Development of banking and financial system, Business cycle, Liquidity preference of the people, Speedy clearance of cheques and transfer of funds.

4.6 QUESTIONS

1. What is Money Supply?
2. Explain the approaches to the constituents of money supply.
3. Explain the determinants of money supply.
4. What is Velocity of Circulation of Money and explain the determinants of velocity of circulation of money?

5

DEMAND FOR MONEY

Unit Structure

5.0 OBJECTIVES

- To understand the meaning and functions of money
- To study the Keynes' Theory of Demand for Money
- To study the Liquidity Preference Approach to the theory of interest

5.1 MEANING OF MONEY

Money is defined in Economics as 'anything that is generally accepted in payment for goods and services as a medium of exchange.' Money consists of currency and checkable demand deposits. Money is different from income and wealth. While income refers to a flow of purchasing power which is used to make payments for the services obtained from the factors of production, wealth is a stock of accumulated purchasing power. While income is a flow variable that is measured over a given period of time, wealth is a stock variable that is measured at a given point of time. While income is generally in the form of money and income in the form of money is known as nominal income, income in the form of goods and services is known as income in kind or real income. Real income is also measured in terms of constant prices. Wealth can be held in the form of monetary assets. Saving is the primary source of wealth. Money is the most liquid asset. The liquidity of assets refers to the ease with which an asset can be converted into a medium of exchange. Assets are classified as either financial assets or real assets and are ranked

according to their liquidity. Currency, checkable deposits, savings deposits are the examples of liquid financial assets. Stocks and bonds are relatively less liquid financial assets. Precious metals like silver, gold, platinum etc are liquid real assets. Artwork, machinery and real estate are the examples of less liquid real assets. The liquidity of an asset is determined by the following factors:

1. Existence of a well established market in which the asset can be quickly sold.
2. Size of transaction costs (brokers fees, time costs)
3. Stability of the asset's price.

The price of a rupee is always a rupee. The prices of other assets measured in terms of money generally fluctuate. However, the value of a rupee is not fixed as it is measured in terms of purchasing power. For instance, at current prices a potato vada would cost you Rupees Ten a piece. In 1974 when I was studying in the fifth standard, Rupees Ten would fetch me 100 pieces of potato vada and with that money I could have arranged a potato vada party for 100 students. (The value of money: $V_m = 1/P$, where 'P' stands for price level.

FUNCTIONS OF MONEY:

Money is a matter of functions four: medium, measure, standard and store. Money therefore has four important functions.

1. **Medium Of Exchange:** Money functions as a medium of exchange and hence permits a time interval between buying and selling goods and services. Money replaces barter where goods or services are traded directly for other goods or services. Barter does not provide a time interval between buying and selling goods and services. Money eliminates the need for a double coincidence of wants. For instance, a farmer who has jowar in his stocks and wants to trade it for wheat must find a person who has wheat and also wants to trade wheat for jowar. Money greatly improves the efficiency of transactions by reducing transactions costs. In a barter economy, transaction costs would include cost of search. The cost of search is eliminated in a monetary economy. In a monetary economy, the farmer only needs to find a person who wants to buy jowar and has the purchasing power to pay for it. The farmer need not be bothered if the person has wheat and is willing to trade wheat for jowar. The need for double co-incidence of wants is eliminated in a monetary economy.

2. **Unit of Account:** A unit of account is a standard numerical unit of measurement of the market value of goods, services and other transactions. It is also known as a "measure" or "standard"

of relative worth and deferred payment. Money as a unit of account is essential for entering into commercial agreements that involve debt and future payments. Money is divisible into small units without destroying its value. Precious metals can be coined from bars and melted down to bars again. Money is fungible, i.e., one unit or piece must be perceived as equivalent to any other commodity or service. Hence diamonds or works of art are not suitable as money. A specific weight, or measure, or size must be verifiably countable. For instance, coins are often made with ridges around the edges so that any removal of material from the coin leading to fall in its intrinsic value will be easy to detect. The unit of account is the unit in which values are stated, recorded and settled. Money is a means of measuring and recording value. Wheat is measured in kilograms. Distance is measured in kilometers. Value is measured in units of money. In barter, the value or price of every good and service must be measured in terms of the value of every other good and service. In a barter economy with only 100 goods there would be: [(N(N-1))/2] = 4950 prices. However, in a monetary economy with only 100 goods, there would be only 100 prices. At current prices, a kilogram of wheat would be accounted in the range of Rs.25 to Rs.35 and a kilogram of rice would be accounted in the range of Rs.30 to Rs.50.

3. **Store of Value:** Since money, as a medium of exchange, represents purchasing power, it can be stored and used in the future. Money is a store of value but it is not usually a good store of value. During inflation, money looses its value. The value of money is inversely related to the price level. Higher the price level, lower will be the value of money and vice versa. Symbolically, the value of money can be found out with the following formula:

   $$Vm=1/P$$

   Assuming the price level to be 100, the value of Rs. 100 would be 100. If the price level goes up to 200, the value of Rs. 100 would be only 50. Money may therefore not be acceptable as a store of value during periods of high inflation. Instead, people may prefer to store value in the form of gold and real estate.

4. **Standard of Deferred Payments:** Deferred payment means future payments. Money is used as a standard of deferred payments and hence debt contracts are signed in monetary terms. Loans and future payments are agreed and contracted in monetary terms as money units are accepted as the means of settling future accounts. However, during periods of very high inflation, money may not be used as a standard of deferred payments because the future value of present money is

inversely related to the general price level i.e. when the price level goes up, the value of money falls. Thus during inflationary periods, money may be used as a medium of exchange but not as a standard of deferred payments.

5.2 KEYNES' THEORY OF DEMAND FOR MONEY

Keynes put forward his theory of demand for money in his famous work "The General Theory of Employment, Interest and Money" (1936). According to Keynes, people hold cash balances on account of three reasons or motives. These are the transaction motive, the precautionary motive and the speculative motive. Accordingly the demand for money can be separated into three parts namely transaction demand, precautionary demand and speculative demand for money. The total demand for money or cash balances can be divided into two namely; active and idle cash balances.

Active Cash Balances:

Demand for active cash balances is divided into transaction and precautionary demand for money. The **transaction demand** for money arises due to the fact that money is a medium of exchange. Further receipts and payments do not take place simultaneously. There is always a time gap between two successive receipts and payments are an ongoing affair in the routine course. Hence people need to hold cash balances to pay for their regular transactions. According to Keynes, transaction motive for holding money is the need of cash for the current transactions of personal and business expenditure. Therefore, households and firms hold money on account of the transaction motive. Their respective transactions motives can be referred to as income and business motives. The income motive refers to the transaction motive of households. Families hold cash balances to execute routine transactions. Household demand for money depends upon the following factors:

1. **The Level of Income**: Transaction demand for money by the households is directly related to the level of income, i.e. higher the level of income, higher will be the transaction demand for money and vice versa.

2. **The Price Level**: Higher the price level, higher will be the transaction demand for money and vice versa. When prices rise, more money will be required to purchase the same quantity of goods and services and hence the transaction demand for money would rise when prices rise.

3. **The Spending Habits**: If the people in a society are thrifty, they would require less money for transactions purposes. However, if large number of persons in a society is spendthrift, they would require more money for transaction purposes.

4. **The Time Interval:** If the time interval between two successive income receipts is big, then the people will hold larger cash balances under transaction motive and vice versa.

Similarly, firms need cash balances to pay for raw materials, transport, wages and salaries and other payments. Cash balance held by firms to satisfy these requirements is the money held under **business motive**. The quantum of money held under business motive is directly related to the turnover of firms i.e. larger the turnover, larger will be the amount of money held under business motive.

Transactions demand for money is therefore the sum of money held under income motive and business motive. It is income determined and remains stable in the short run because income change takes place only in the long run. Transactions demand for money is an increasing function of income. Symbolically, the transactions demand for money function can be stated as follows:-

$L_t = f(Y)$

Where; L_t = Liquidity preference under transactions motive.

Y = Level of national income.

People also hold cash balances to provide for unforeseen requirements. The amount of cash balances held by people to provide for unforeseen requirements is referred to as precautionary demand for money or money held under precautionary motive. Sickness, unemployment, death, accidents etc are some of the unforeseen events which may take place in the lives of people. The precautionary demand for money depends upon uncertainty of future receipts. It is directly related to income and relatively stable. The precautionary demand for money is interest inelastic and changes in response to changes in uncertainty. Symbolically, the precautionary demand for money can be stated as follows:

$L_p = f(Y)$

Where; L_p = Liquidity preference under precautionary motive.

The transaction and precautionary demand for money cannot be easily separated in practice and since both the money demand functions are income determined and also interest inelastic, they are collectively known as **active balances**. Symbolically, the demand for active balances can be stated as follows:

$L_1 = L_t + L_p$

Both transaction and precautionary demand for money is income determined, we can restate the money demand function for active balances as follows:

$L_1 = f(Y)$

The demand for active balances is graphically depicted in Fig. 5.1 below.

You will notice that at income level OY_1, OM_1 is the demand for active cash balances. When income level rises to OY_2, the demand for active cash balances also rises to OM_2. The demand for active cash balances is proportionate to changes in income.

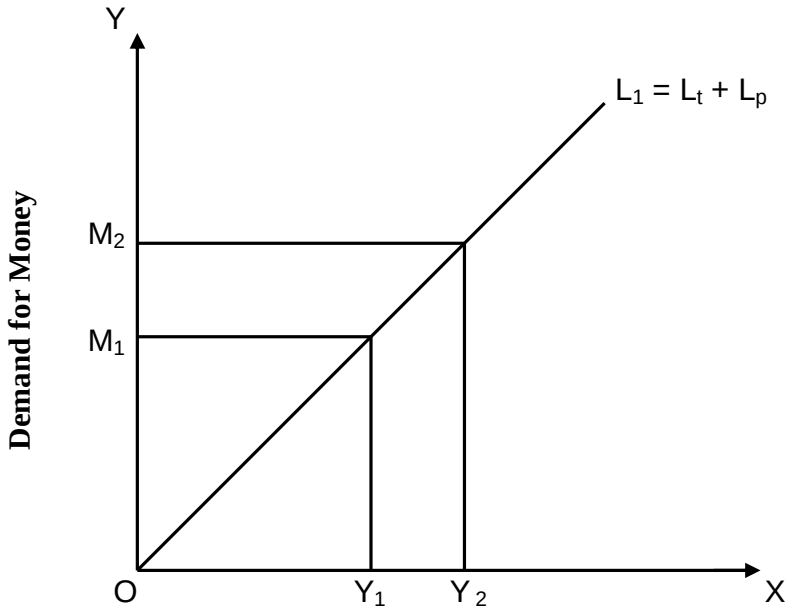


Fig. 5.1: Demand for Active Cash Balances

Idle Cash Balances (Speculative Demand for Money):

The cash balances held by people for speculative purposes are known as demand for idle cash balances. The speculative motive for holding cash balances originates from uncertainty about the future rate of interest. Speculative demand for money arises because of the store of value function of money. The speculator holds cash balances in order to make speculative gains from investment in securities. According to Keynes, investors make capital gains by speculating in securities or bonds. The speculative demand for money depends upon the rate of interest. The demand for speculative cash balances is inversely related to the rate of interest. When people expect the prices of income yielding assets such as bonds to fall, the speculative demand for money rises and

vice versa. Symbolically, the speculative demand for money can be stated as follows

L_2 = f (i)

Where; L_2 = Speculative demand for money.

i = Rate of interest.

The opposite relationship between rate of interest and speculative demand for money is shown in Fig.5.2 below:

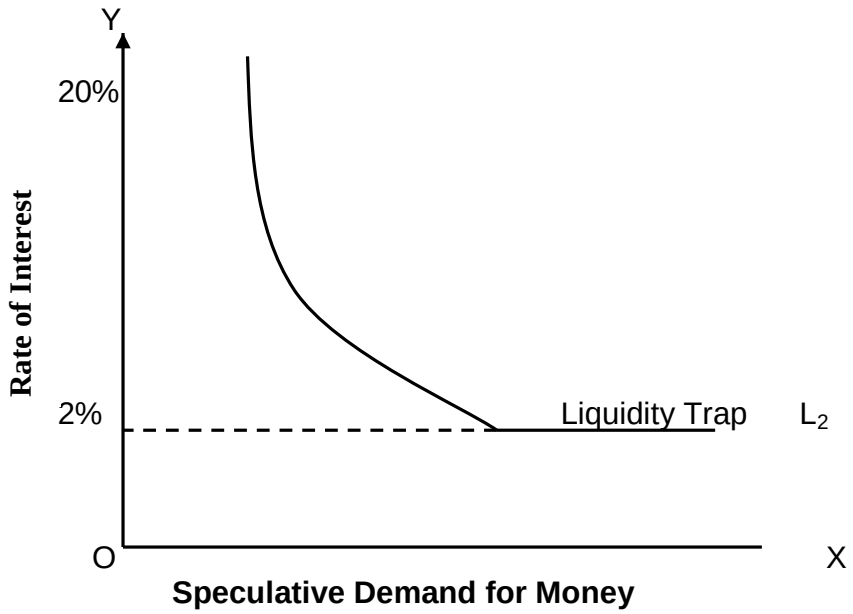


Fig. 5.2: Demand for Idle Cash Balances

You will notice that the speculative demand for money is inversely related to the rate of interest. When the rate of interest falls, the speculative demand for money rises and vice versa. Speculative demand for money is therefore highly interest elastic. However, at a very low interest rate, the speculative demand for money becomes perfectly elastic i.e., the entire income is held in the form of idle cash balances. This is due to the fact that bond prices and interest rates move in opposite directions. When the interest rate rises, the bond or security prices fall and vice versa. The speculative demand for money is also income determining and not income determined as in the case of transaction and precautionary demand for money. When the interest rate is expected to rise, people prefer to hold cash balances at the current interest rate so that they can take advantage of a rise in interest rate in the future. When speculative demand for money is rising, it indicates a greater preference for liquidity.

The Concept of Liquidity Trap:

At a very low rate of interest, the speculative demand for money is perfectly elastic i.e., the entire income is held by people in the form of cash balances for speculative purposes. In the situation of liquidity trap, percentage change in the demand for money in response to a percentage change in the rate of interest is equal to infinity. Symbolically, the liquidity trap situation can be stated as follows:

$$\frac{\Delta M}{M} \times \frac{i}{\Delta i} = \alpha$$

You will notice that the L_2 curve in Fig.5.2 shows the liquidity preference under the speculative motive at different rates of interest. At a very high interest rate of 20%, the speculative demand for money is very low and vice versa. However, when the interest rate is only 2%, the speculative demand for money becomes perfectly elastic. At this point, any increase in money supply or income will be held by the people in the form of idle cash balances. In the diagram, the liquidity trap situation is shown by highlighting the horizontal segment of the liquidity preference curve. The liquidity trap situation arises because at very low rate of interest, the opportunity cost of holding cash balances is negligible and that in future the opportunity cost of holding cash balances is expected to rise.

Aggregate Demand for Money:

The aggregate or total demand for money is the sum of transaction, precautionary and speculative demands for money. Symbolically, the aggregate demand for money can be stated as follows:

$$L=L_1 + L_2$$

Where; L=Aggregate demand for money.

The functional relationship between aggregate demand for money and the determining variables: nominal level of aggregate income and the rate of interest can be stated as follows:

$$L=f(Y, i)$$

The liquidity preference schedule of a community can be obtained by superimposing the L_1 curves at each level of income on the L_2 curves. The liquidity preference schedule of a community is shown in Fig.5.3 below.

In Fig.5.3, Panel (A) shows the schedule of active balances (the sum of transaction and precautionary demand for money) held by people at different levels of income. The demand for active balances is perfectly inelastic to changes in interest rate in the short run and changes proportionately to the changes in the level of

income. Accordingly, L_1 (Y_1) shows the demand for active cash balances at Y_1 level of income and so on and so forth. The L_1 curves are vertically sloping because they are interest-inelastic. In Panel (B), the L_2 curves shows demand for idle cash balances or speculative demand for money. You will recall that speculative demand for money is interest-elastic and inversely related to the rate of interest. Hence the L_2 curve is downward sloping. However, at a very low rate of interest, it becomes horizontal indicating that the entire income is held in the form of idle cash balances. In Panel (C), the liquidity preference curve indicating total demand for money is shown. It is the result of super-imposition of the L_1 curves on the L_2 curves. Accordingly, the curves $L(Y_1)$, $L(Y_2)$ and $L(Y_3)$ are obtained and they represent the liquidity preference schedules of the community at various levels of interest rates and national income.

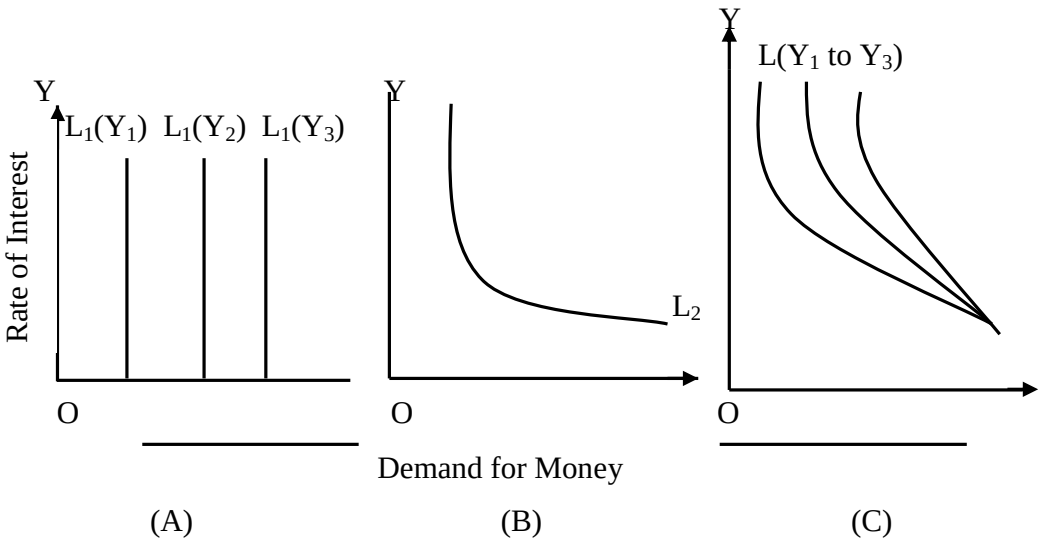


Fig. 5.3: Total Demand for Money

THE LIQUIDITY PREFERNECE THEORY OF INTEREST

5.3 THE LIQUIDITY PREFERNECE THEORY OF INTEREST

According to Keynes, the rate of interest is determined by the demand for and supply of money. Interest is the reward for lending liquidity or temporarily giving up cash balances held by the people. Symbolically, the rate of interest can be stated as follows:

$$R_i = f(D_M, S_M)$$

Where, R_i = Rate of interest.

D_M = Demand for money, and

S_M = Supply of money.

The demand for money can be expressed in the form of a liquidity preference schedule. Further, the demand for money as stated earlier is the sum of demand for active and idle cash balances. While the demand for active cash balances is determined by the transaction and precautionary motives, the demand for idle cash balances is determined by speculative motive. There is a direct relationship with the demand for active cash balances and the level of income. Whereas, the demand for idle cash balances is inversely related to the rate of interest. The total demand for money can be symbolically stated as follows:

$L = L_1 + L_2$

Where; L = Aggregate demand for money.

L_1 = Demand for active cash balances.

L_2 = Demand for idle cash balances.

The total demand for money can therefore be symbolically re-stated as follows:

$L = f(r, y)$

Where L = Aggregate demand for money.
r = Rate of interest.
y = Level of national income.

DETERMINATION OF THE RATE OF INTERST:

The equilibrium rate of interest is determined by the intersection between the demand curve for and supply curve of money. The supply of money is determined and controlled by the monetary authority and the banking system. At any time, the stock of money is fixed. The supply of money is a stock rather than a flow. Hence, it is represented by a vertical straight line. The money held by all the people in the country is the total supply of money held as shown in Figure 5.4. In this figure, OM is the supply of money. SM is the vertical supply curve of money and LP is the demand or liquidity preference curve. They intersect with each other at point E. EM or OR is the equilibrium rate of interest. It shows that the demand for money is exactly equal to the supply of money. Any change in the demand or supply of money will bring about a change in the rate of interest. If the supply of money alone increases, the equilibrium rate of interest would fall and vice versa. This is shown in Figure 5.5. It can be seen in this figure that the original equilibrium rate of interest is OR. The original supply of money is OM. When the supply of money alone increases to OM_1, the equilibrium rate of interest would fall to OR_1 and vice versa. On

the supply side, the rate of interest is influenced by the supply of money. By controlling the supply of money, the monetary authority can influence the rate of interest and the liquidity preference.

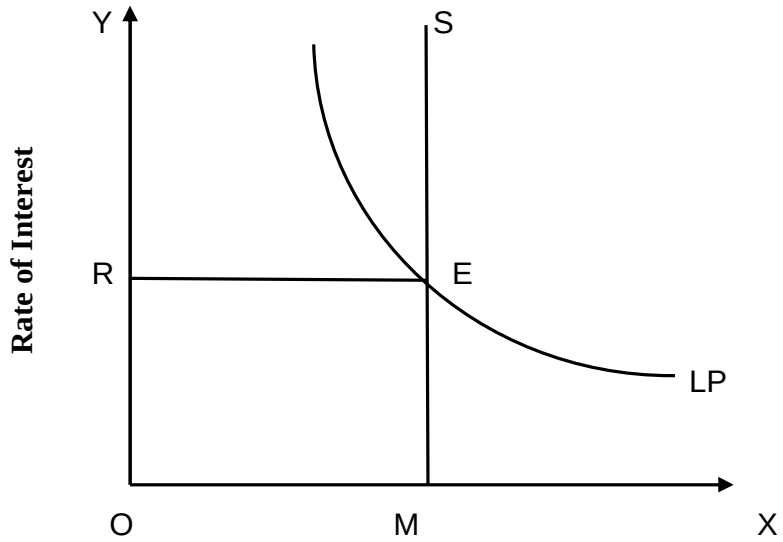


Fig. 5.4 – Determination of Interest Rate

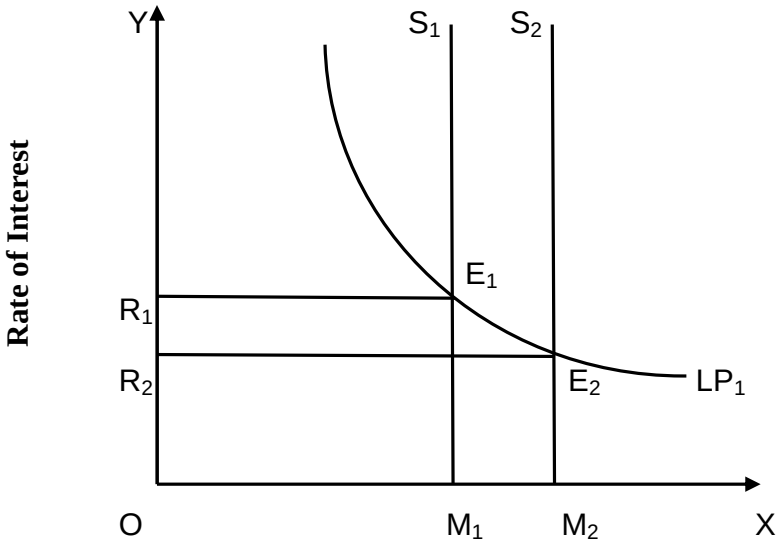


Fig. 5.5 (A) – Changes in the Rate of Interest

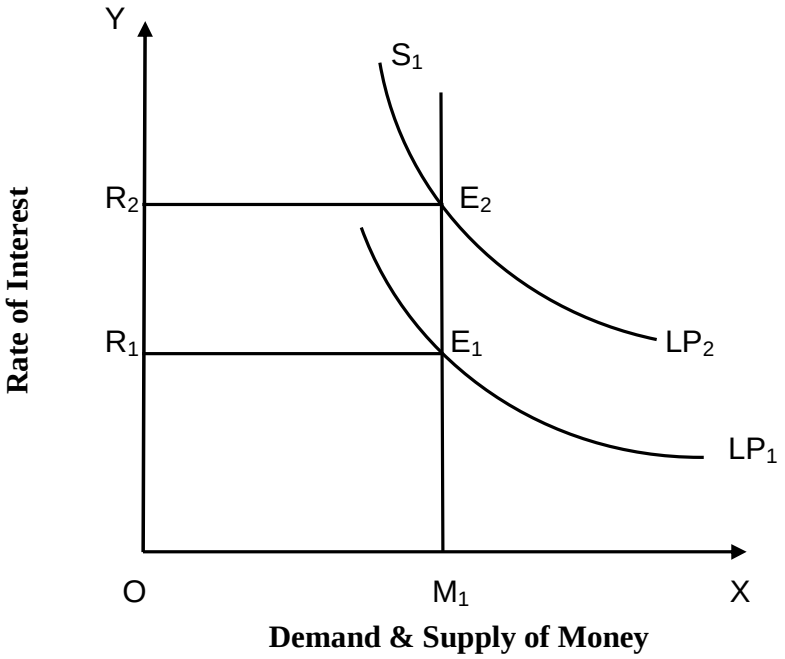


Fig. 5.5 (B) – Changes in the Rate of Interest

CRITICAL ANALYSIS OF THE LP THEORY OF INTEREST:

The Keynesian theory of interest has been criticized by Hansen, Robertson, Knight, Hazlitt, Hutt and others. The following are the main criticisms:

1. **The theory lacks in realism and comprehensiveness:** Speculative demand for money is the most important component which determines interest rate according to Keynes. The theory assumes that people will hold more money by selling bonds when the rate of interest falls and hold less cash but more bonds in the case of the rise in the interest rate. However, Robertson does not regard bonds as the only alternative to money. The theory is therefore not realistic and lacks comprehensiveness.

2. **Methodologically Inadequate:** A change in the quantity of money would tend to change the price of the good in the same proportion but not the price of bonds. There is no functional relationship between the price level and the rate of interest. Monetary changes do not have direct or lasting effect on the rate of interest. By assuming a functional relationship between the quantity of money and the rate of interest, the Keynesian theory is found to be methodologically inadequate.

3. **Only Speculative Demand for money is considered to be rewarding:** Keynes believed that money held as a store of wealth does not bear any fruit whereas money held for

speculative purpose yields rate of interest as a reward. According to WH Hutt, money is as productive as all other assets and the demand for money assets is a demand for productive resources.

4. **Saving is Essential for Liquidity:** Keynes believed that the rate of interest is the reward for parting with liquidity and not for saving. Saving is essential for making investments. According to Viner, "Without saving there can be no liquidity to surrender. The rate of interest is the return for saving without liquidity".

5. **Liquidity Trap does not exist:** In reality the liquidity preference schedule may be perfectly inelastic at a low rate of interest. It is wrong to assume that people will expect the rate of interest to go up in a depression.

6. **Incomplete Theory:** Hicks, Hansen, Somers, Lerner and others says that the rate of interest along with the level of income is determined by four factors, namely: the investment demand function or MEC, the saving function or the consumption function, the liquidity preference function and the quantity of money function. Keynes did not bring all these factors in his interest theory and therefore failed to provide an integrated and determinate theory of interest.

5.4 SUMMARY

1. According to Keynes, people hold cash balances on account of three reasons or motives. These are the transaction motive, the precautionary motive and the speculative motive.
2. According to Keynes, transaction motive for holding money is the need of cash for the current transactions of personal and business expenditure.
3. The amount of cash balances held by people to provide for unforeseen requirements is referred to as precautionary demand for money or money held under precautionary motive.
4. The transaction and precautionary demand for money cannot be easily separated in practice and since both the money demand functions are income determined and also interest inelastic, they are collectively known as active balances.
5. The cash balances held by people for speculative purposes are known as demand for idle cash balances. The speculative motive for holding cash balances originates from uncertainty about the future rate of interest.
6. At a very low rate of interest, the speculative demand for money is perfectly elastic i.e., the entire income is held by people in the

form of cash balances for speculative purposes. In the situation of liquidity trap, percentage change in the demand for money in response to a percentage change in the rate of interest is equal to infinity.

7. The equilibrium rate of interest is determined by the intersection between the demand curve for and supply curve of money. Any change in the demand or supply of money will bring about a change in the rate of interest.

5.5 QUESTIONS

1. Explain the meaning and functions of money.
2. Explain the Keynesian approach to demand for money.
3. Critically examine the Liquidity Preference theory of interest.

6

INFLATION

Unit Structure :

6.0 OBJECTIVES

- To understand the meaning of inflation
- To study different causes of inflation
- To study effects of inflation in an economy
- To study measures to control inflation

6.1 MEANING OF INFLATION

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.

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: $P = [(P_1 - P_0) / P_0] \times 100$. 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 6.1.

Table 6.1
Inflation Rate based on Wholesale Price Index (WPI) in India for the period 2005-06 to 2012-13.

Year	Wholesale Price Index	Inflation Rate (%) $P = [(P_1 - P_0) / P_0] \times 100$
2005-06	104.5	-
2006-07	111.4	111.4 – 104.5/104.5 × 100 = 6.6%
2007-08	116.6	116.6 –111.4/111.4 × 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
2010-11	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

TYPES OF INFLATION BASED ON RATES OF 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 instance between1920-23, 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.

6.2 DEMAND PULL, COST PUSH AND STRUCTUAL INFLATION

Broadly speaking, there are three types of inflation which constitutes the causes of inflation. Demand side factors will cause demand pull inflation, supply side factors will cause cost push inflation and structural factors will cause structural inflation. Here in this section, we will analyze these three major types of inflation.

1. Demand -pull Inflation: Demand pull inflation takes place due to rise in aggregate demand. Aggregate demand may rise due to combined effect of higher demand from the various sectors of the economy such as the firms, households and the government. According to Keynes, inflation arises when there is an inflationary gap in the economy. Inflationary gap arises when aggregate demand is greater than aggregate supply at full employment level of output. 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.

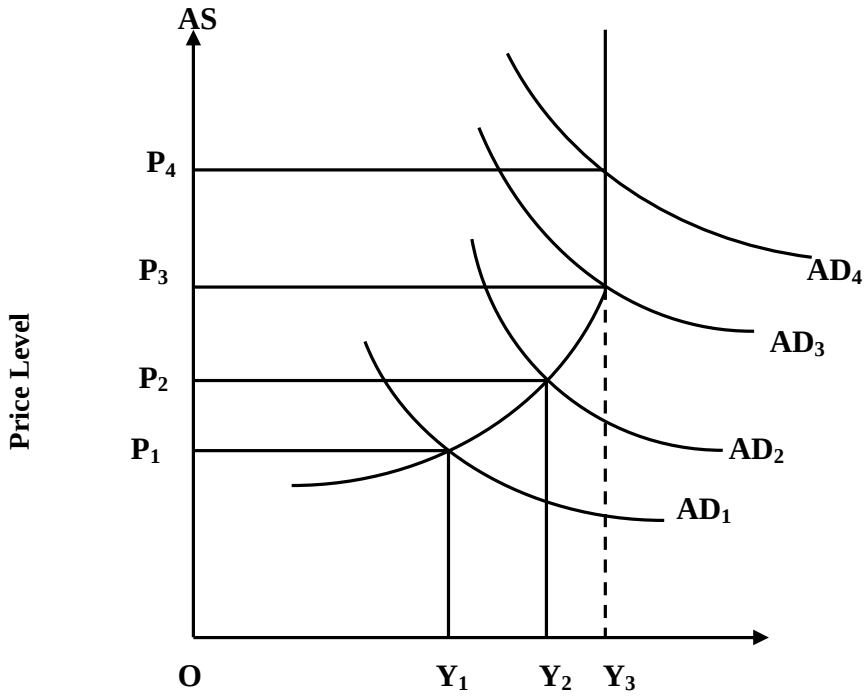


Fig. 6.1: Demand Pull Inflation

Demand pull inflation is depicted in Fig.6.1. You may note that aggregate demand and supply curves are measured along the X-axis and the general price level is measured along the Y-axis. The aggregate supply curve AS rises upward in the beginning and becomes vertical when full employment level of output is achieved at point OY_f. This is because the supply of output cannot be increased once full employment level of output is achieved. When the aggregate demand curve is AD_1, the equilibrium is less than full employment level and the price level OP_1 is determined. When aggregate demand increases to AD_2, the price level rises to OP_2 due to excess demand at price level OP_1. Since the economy is operating at less than full employment level, the real sector of the economy responds to rise in prices and hence the output increases to OY_2. When the aggregate demand further rises to AD_3, the price level rises to OP_3 followed by increase in output to OY_f. When the aggregate demand further rises to AD_4, the aggregate supply does not respond to remain constant at OY_f and only the price level rises to OP_4. After the full employment level of output the aggregate supply curve becomes perfectly inelastic and parallel to the Y-axis.

2. Cost-push Inflation:

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.

a) **Wage-push Inflation:** Powerful trade unions may bargain for higher wages and also get it even when the cost of living has not changed or the general price level is constant and there is no change in the productivity of labor. When employers have no choice but to yield to the demands of the trade union, they may pass on the higher costs to the consumers by charging higher prices on the goods and services produced. Such a situation leads to Cost-push inflation. In case of Cost-push inflation, the aggregate demand curve shifts to the left leading to fall in output and rise in the price level. Cost push inflation is also known as stagflation. Cost-push inflation is depicted in Fig. 6.2

b) **Profit-push Inflation:** Firms operating under imperfect market conditions such as monopoly, monopolistic and oligopoly markets may hike their profit margins either autonomously or through collusion. When prices rise on account of hike in profit margins, it is called profit-push inflation. Profit push inflation may lead to cost push inflation if the products are used as inputs by other firms. When prices of capital goods, intermediate goods and raw materials are increased to increase the profit margin by firms operating under imperfect competition and when these goods are used as inputs by other firms, the cost of production of these firms go up, thereby leading to cost push inflation.

c) **Input Cost Inflation:** Supply shocks leading to rise in input costs is an important cause of input-cost inflation. For instance, the oil price shocks of 1970s. The sharp rise in world oil prices during 1973-75 and in 1979-80 created supply shocks and cost-push inflation. Recent increases in the prices of crude oil also caused the inflation rate to go up. For instance, the weekly inflation rate in India was 12.34% during the second week of September 2008 as a result of sharp increase in the international prices of crude oil to $150 per barrel. The government of India took monetary and fiscal measures to bring down the prices. Fortunately, the crude oil prices also fell below the $50 per barrel mark in January 2009 and the weekly inflation rate in India also fell down to 6.4 per cent from the high of 12.34 per cent in September 2008.

d) in January 2009 and the weekly inflation rate in India also fell down to 6.4 per cent from the high of 12.34 per cent in September 2008.

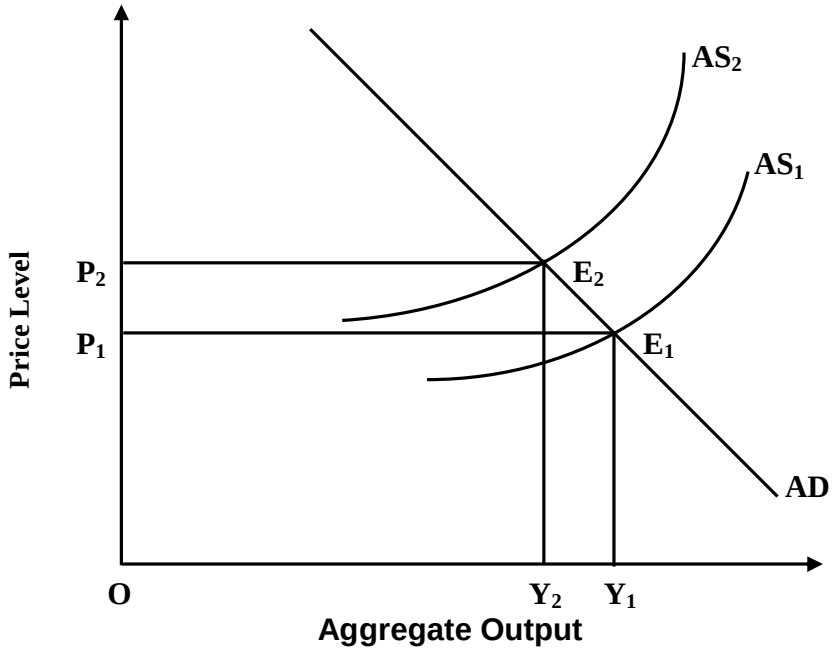


Fig. 6.2 Cost-push Inflation

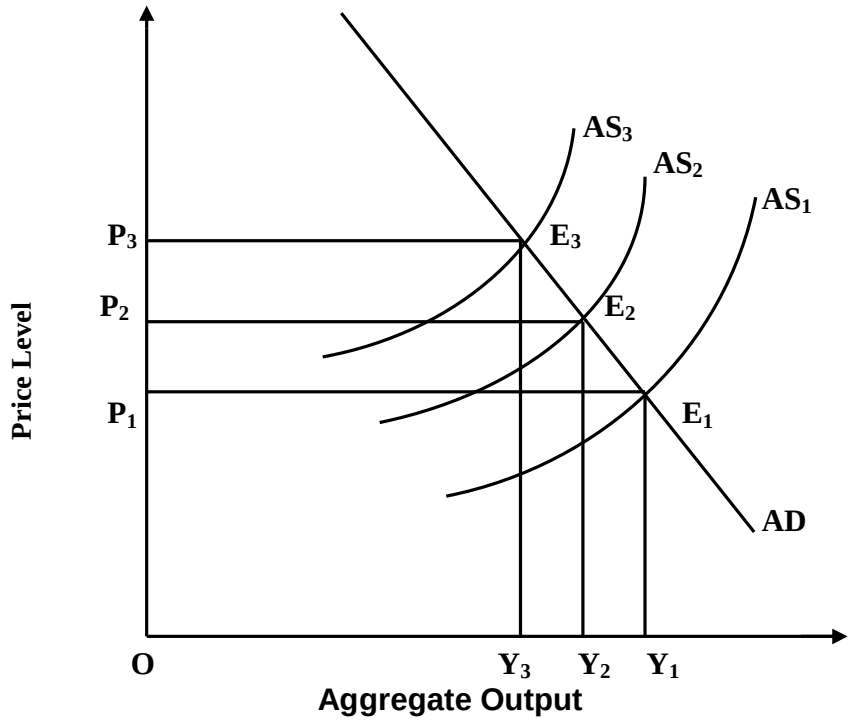


Fig. 6.3 Cost-push Inflation & Direct and Indirect Effects of Supply Shocks

Cost push inflation as a result of rise in input prices is depicted in Fig. 6.3. Oil price shocks and rise in the price of other inputs have direct and indirect effects on the price level. When

prices actually rise due to rise in input costs, the workers revise their price expectations upward. With upward price expectations, real wage rate declines and hence less labor is supplied at the given nominal wage rate. With the upward revision in the expected price level, the aggregate supply curve shifts to the left. This is known as the indirect effect of an expected upward price revision. In Fig.6.3, you will notice that the AS_1 curve shifts to the left to AS_2 and the price level rises to P_2 on account of oil price shock. This is known as the direct effect of a rise in the input cost. Now that the price level has gone up, the workers will revise the expected price level to P_2 . This pushes the AS curve further left to AS_3 and further rise in price level to P_3. The movement from AS_2 to AS_3 is known as the indirect effect of oil price shock.

6.3 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.

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 in India is on non-developmental activities. Expenditure on defense, interest payments and governmental machinery constitutes non-developmental expenditure. Expanding governmental machinery, rising defense expenditure, 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 6.2

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

Year	Increase in Money Supply M_3 (%)	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 of

10 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.

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 in

investment 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.

6.4 EFFECT OF INFLATION

EFFECT OF INFLATION ON PRODUCTION AND ECONOMIC GROWTH, DISTRIBUTION OF INCOME AND WEALTH AND CONSUMPTION AND ECONOMIC WELFARE

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 labor is 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.

6.5 MEASURES TO CONTROL INFLATION

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.

Attempt to control inflation in India was made for the first time in the early sixties after experiencing rapid rise in prices during the second five year plan. However, measures taken by the government were not effective to control inflation. Prices continued to rise throughout the planning era except the first five year plan. One of the important tasks of the government was to maintain price stability under the new economic policy. Accordingly, the government undertook various measures to control inflation in the country. These measures were as follows:

(A) MONETARY POLICY MEASURES:

The Central Bank's policy with regard to cost and availability of credit is known as monetary policy. The RBI can raise the rate of interest and increase the cost of credit and also reduce the

availability of credit. Quantitative instruments of credit control such as the bank rate, the cash reserve ratio and the statutory liquidity ratio can be used to reduce aggregate demand in the economy. Increase in the bank rate by the RBI will increase the market interest rate in the country. This will reduce the demand for credit and further lead to reduction in aggregate demand. Similarly, if the CRR and SLR are increased, the banks will have less money at their disposal to give loans and advances to the borrowers. Monetary expansion due to rising foreign exchange reserves was controlled by sterilization of foreign exchange reserves. 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. 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 that price effect of money supply is greater than output effect.**

1. **The Bank Rate:** Bank rate is the rate at which Reserve Bank provides loans to the commercial banks in the country. It is also called the discount rate because the Central Bank provides finance to commercial banks by rediscounting bills of exchange. The bank rate in India was 10 per cent in the 1980s. It was raised to 12 per cent in October 1991. The bank rate was not a very effective in controlling money supply in the pre-reform period. However, in the post reform period, the bank rate has been made more effective and in keeping with the objective of low inflation and high economic growth, the bank rate was reduced to 6 per cent in April 1998 and it continued to be retained at 6 per cent until July 2010. The bank rate however went up to 9.5 % as on 29th March 2012 on account of inflationary pressures in the Indian economy. Thereafter, the bank rate was brought down to 8.25% in view of recessionary trend in the Indian economy. However, due to sustained inflationary pressures, the bank rate was raised to 10.25% in July 2013.

2. **The Repo and Reverse Repo Rates:** The bank rate as a credit control instrument is losing importance. The repo and reverse repo rates are becoming important in deciding interest rate trends in the Indian economy. The Repo (sale and repurchase agreement) is a swap deal involving the immediate sale of securities and simultaneous purchase of those securities at a future date at a predetermined price. These swap deals take place between the RBI and financial institutions. The repo or the repurchase rate is the rate at which the Central Bank provides funds to banks. Continuing with its anti-inflationary monetary policy stance, between March, 2010 and April, 2011, the RBI has raised the policy rates six times. The repo rate was 5% in March 2010 and in April, 2011 the repo rate went up to 6.75%. The repo rate was further raised to 8.5 % on 25th October, 2011 on the occasion of the Second Quarter Review of

the Monetary Policy for the year 2011-12. The reverse repo rate is the rate at which the Central Bank takes funds from banks and the reverse repo rate in March 2010 was 3.5% and in April, 2011 was 5.75 per cent. In October, 2011, the reverse repo rate was raised to 7.5 per cent. In June 2013, the repo rate was 7.25 and the reverse repo rate was 6.25%. Until July 2013, these rates have been retained by the RBI.

3. **Open Market Operations:** Open market operations means the buying and selling of securities by the central bank. The sale of securities leads to contraction of credit and purchase of securities lead to credit expansion. The RBI uses switch operations for buying and selling government securities. Switch operations involve purchase of one loan against sale of another. The use of switch operations prevents unrestricted increase in money supply. Recently, in January 2011, when the SLR was reduced from 25% to 24%, the RBI neutralized the excess liquidity through OMOs. The SLR was further reduced to 23% in the year 2012 and continues to remain at 23%. The RBI conducted Open Market Sales of Government of India Securities of Rs.12,000 crore on July 18, 2013.The RBI, however, could gain Rs. 2,532 crore from the auction, as rest of the bids received had quoted yield rates higher then acceptable to the RBI.

4. **The Cash Reserve Ratio:** The CRR is an effective instrument of credit control. It refers to the cash which the banks have to maintain with the Reserve Bank as a certain percentage of their demand and time liabilities. Changes in the CRR bring about changes in the loanable resources of the banks, particularly the commercial banks. In the late 1980s, there was a rapid growth in money supply and hence the CRR was raised from 10 per cent to 15 per cent. In the post reform period, the CRR was brought down according to the recommendation of the Narasimham Committee to below the 10 per cent level. However, in August 1994, the CRR was raised to 15 per cent to control the inflationary trends in the economy. Since then inflationary pressures were reduced in the economy and accordingly the CRR was progressively reduced to 4.5 per cent in June 2003. The RBI had to increase the CRR to five per cent in October 2004 and further to 7.5 per cent in October 2007. In August 2008, the CRR was raised to nine per cent. As part of the anti-recessionary policy in the wake of global financial crisis of 2008-09, the CRR was reduced to five per cent in January, 2009. It was raised to 5.75 per cent in February, 2010 and further to six per cent in April 2010 as inflationary pressures started building in the economy on account of the huge fiscal stimulus that was given by the government in the aftermath of the financial crisis of 2008-09 and its negative impact on

economic growth in India. In the first quarter review of the monetary policy for the year 2010-11, released in July 2010, the CRR was retained at 6 per cent by the RBI. Subsequently, the CRR was reduced to 4.75 per cent in March 2012 to ease liquidity conditions in the money market. In June 2013, the CRR was 4.0% and it continues to be 4 % in July 2013.

5. **The Statutory Liquidity Ratio:** The Banking Regulation (Amendment) Act 1962 provides for maintaining a minimum SLR of 25% by the banks against their net demand and time liabilities. The SLR is fixed at 25% for co-operative banks, non-scheduled banks and the regional rural banks. In case of commercial banks, it can be raised to 40%. The RBI has used this instrument quite often during the 70s and 80s. In September 1990, the SLR was raised to 38.5 per cent and it remained at this level up to January 1993. This was done to control inflationary pressures and make larger resources available to the government. The Narasimham Committee recommended reduction of SLR to 25 per cent and accordingly the SLR was reduced to 25% in a phased manner in October, 1997. In November 2008, the SLR was further reduced to 24 per cent and in October, 2009, the SLR was restored to 25 per cent once again. However, in December 2010, the SLR was once again reduced to 24%. The SLR was further reduced to 23% in the year 2012 and continues to remain at 23%.

(B) FISCAL POLICY:

The fiscal policy of a country refers to the policy of the Government with regard to income and expenditure. Expansionary fiscal policy is adopted during the periods of economic stability or during the times of recession. In contrast, a tight fiscal policy is adopted when the economy is in the grip of inflation. In order to promote growth, the government may reduce both direct and indirect taxes and increase the level of aggregate demand. The government may also increase public expenditure to increase the level of aggregate demand and achieve a higher economic growth rate. However, in order to control inflation, the Government may raises taxes, add new taxes and reduce public expenditure by reducing the fiscal deficit.

The Government of India made attempts to remove fiscal imbalance from 1991-92 by bringing down fiscal deficit from 6.6 per cent to 4.7 per cent of GDP. However, in 1993-94 the fiscal deficit rose to 6.4 per cent. It was 5.9 per cent in 2001-02. In 2005-06, the fiscal deficit was brought down to below the five percent mark. During the decade 1995-2005, the government has been able to keep the average inflation rate below the five per cent level. However, between 2005-06 and 2012-13, the government had

failed to control inflation rate and fiscal deficit once again went up to 6.0 and 6.5 % in the years 2008-09 and 2009-10. The fiscal deficit during the year 2010-11 was Rs.3, 69,043crores and in the year 2011-012, it was Rs.4, 12,817crores. The budget for 2010-11 announced going back to fiscal consolidation and the projected fiscal deficit for 2010-11, 2011-12 and 2012-13 is 5.5%, 4.8% and 4.1 % respectively. The actual fiscal deficit figures in the years 2010-11 and 2011-12 were below the projected figures. However, fiscal deficit in 2008-09 and 2009-10, had gone up due to fiscal intervention made by the Government of India in the wake of the Global Financial Crisis. Near double digit inflation and a very high food price inflation in the last three years is the price paid by the people of India for the fiscal profligacy of the Government of India.

(C) SUPPLY SIDE MEASURES:

Inflation is the result of mismatch between aggregate demand and aggregate supply. Both monetary and fiscal policies can act on the demand and supply side through interest rates, money supply, taxation and public expenditure. However, some measures can directly influence the supply of goods and services. These measures are explained below.

1. **Public Distribution System:** The Public Distribution System was established in the country to provide essential consumer goods particularly to the poor people at low prices. The entire country is covered by this system. However, one cannot say that the system has been able to control price rise. The agricultural price support policy of the government has worked against the objective of price stability. As a result of faulty agricultural policy, food production in India had failed to keep pace with rising demand for food. The recently enacted Food Security Act by the Government of India promises cheap and heavily subsidized food for about 65 % of the population. It remains to be seen whether this measure will bring down food price inflation in the coming years.

2. **Import of Essential Commodities:** In order to improve the supply of essential commodities, the government of India had allowed food imports. During 1995-96, imports of edible oils, palmolein, sugar and pulses were allowed. The Food Corporation of India sold rice and wheat in the open market to control market prices of these food grains. Excise duties on a number of industrial products were reduced to improve the supply of manufactured goods.

3. **Capacity Utilization and Increase in Aggregate Supply:** The productive capacity of the economy should be fully utilized. Widespread unemployment can only lead to rising price level because the unemployed generates demand for goods and

services without contributing to their production. The productive apparatus in the country consisting of farm lands, industries, services, forestry, fishing, mining etc must be fully utilized. Under utilization of the potential and sometimes the actual productive capacity will lead to shortage of aggregate supply and hence price rise.

(D) INCOME POLICY:

Income freeze is an important policy measure to counter inflation. Here income freeze refers to inflationary income. Revision in wage rates on account of payment of dearness allowance to organized workers and revision in wage rates to all kind of workers due to rise in the cost of living is an example of wage push inflation. Factor incomes such as rent, wages, interest and profit should reflect the marginal productivity of the given factor. Policy that delinks factor incomes from the price level may help stabilizing the prices and may be the price level comes back to the original level in due course. However, the policy of freezing only wages will not be accepted by organized labor. The argument that wage rate must reflect the marginal productivity of labor is economically sound. But the same argument must be extended to other factors of production.

6.6 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.

6.7 QUESTIONS

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

2. Explain the types of inflation based on rates and its impact on the economy.

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

4. Explain the concept of Cost push inflation and the factors causing Cost push inflation.

5. Explain the demand and supply side factors affecting inflation.

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

7. Explain the measures to control inflation.

7

PHILIPS CURVE

Unit Structure :

7.0 OBJECTIVES

- To study the Keynesian explanation of the Phillips Curve
- To understand the collapse of the Philips Curve Hypothesis
- To study the Natural Unemployment Rate Hypothesis and the Theory of Adaptive Expectations
- To study Long run Phillips Curve and the Theory of Adaptive Expectations
- To study Rational Expectations and the Long run Phillips Curve
- To understand the relationship between the Short run and Long run Phillips Curve

7.1 INTRODUCTION

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 behavior 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 tradeoff between wage inflation and unemployment. The Phillips curve shows that the rate of wage inflation decreases with the increase unemployment rate. Assuming W_t as the wages in the current time period and W_{t+1} in the next time period, the rate of wage inflation, g_w, is defined as follows:

$$g_w = \frac{W_{t+1} - W_t}{W_t} \qquad \text{……..(1)}$$

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

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

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.

$$W_{t+1} = W_t [1 - \varepsilon (u - u^*)] \qquad \text{……. (3)}$$

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 Fig. 7.1.

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 tradeoff 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 definitely 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 contracted along with more and more unemployment.

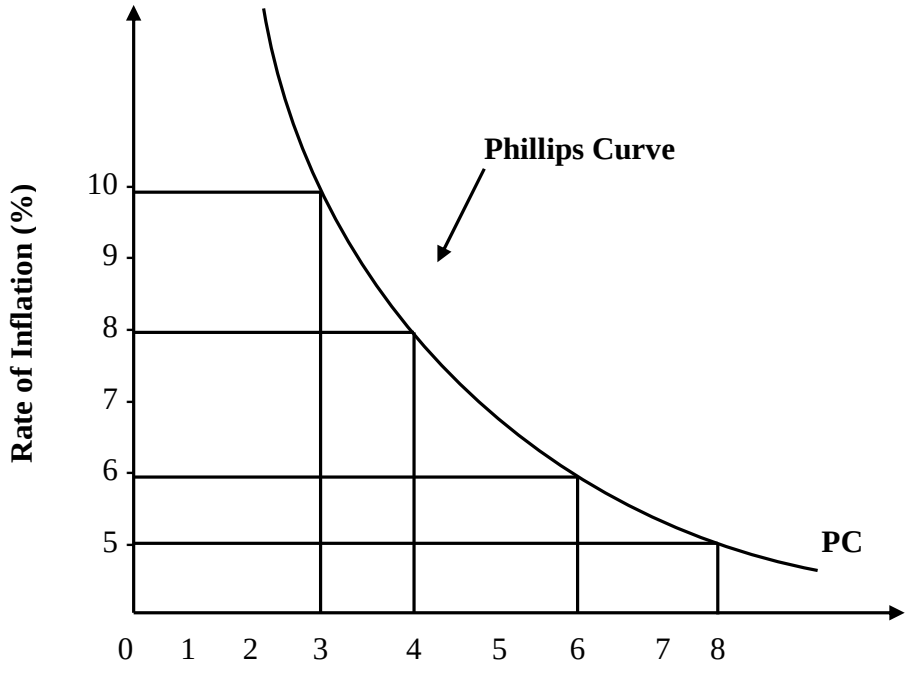


Fig.7.1 – Phillips Curve

7.2 KEYNESIAN EXPLANATION OF PHILLIPS CURVE

The explanation of Phillips curve by the Keynesian economists is shown in Fig. 7.2. Keynesian economists assume the upward sloping aggregate supply curve. The AS curve slopes upwardly due to two reasons. Firstly, as output is increased in the economy, the law of diminishing marginal returns begins to operate and the marginal physical product of labor (MPP_L) begins to decline. Since the money wages are fixed, a fall in the MPP_L leads to a rise in the marginal cost of production because MC = W/ MPP_L. Secondly, the marginal cost goes up due a rise in the wage rate as employment and output are increased. Following rise in aggregate demand, demand for labor increases and hence the wage rate also increases. As more and more labor is employed, the wage rate continues to rise and the marginal cost of firms increases. You may notice that in Panel (a) of Fig.7.2 that with the initial aggregate demand curve AD_0 and the given aggregate supply curve AS_0, the price level P_0 and output level Y_0 are determined. When the aggregate demand increases, the AD_0 curve shifts to the right and the new aggregate demand curve AD_1 intersects the aggregate supply curve at point 'b'. Accordingly, a higher price level P_1 is determined along with a rise in GNP to Y_1 level. With the increase in the real GNP, the rate of unemployment falls to U_2. Thus the rise in the price level or the inflation rate from P_0 to P_1, the unemployment rate falls down thereby depicting an inverse relationship between the price level and the unemployment rate. Now when the aggregate demand further increases, the AD curve shifts to the right to become AD_2. The new aggregate demand curve AD_2 intersects the aggregate supply curve at point 'c'. Accordingly, the price level P_2 and output level Y_2 is determined. The level of unemployment now falls to U_3. In Panel (b) of Figure 7.2, points a, b and c are plotted and these points corresponds to the three equilibrium points a, b and c in Panel (a) of the figure. Thus a higher rate of increase in aggregate demand and a higher rate of rise in price level are related with the lower rate of unemployment and vice versa. The Keynesian economists were thus able to explain the downward sloping Philips curve showing inverse relation between rates of inflation and unemployment.

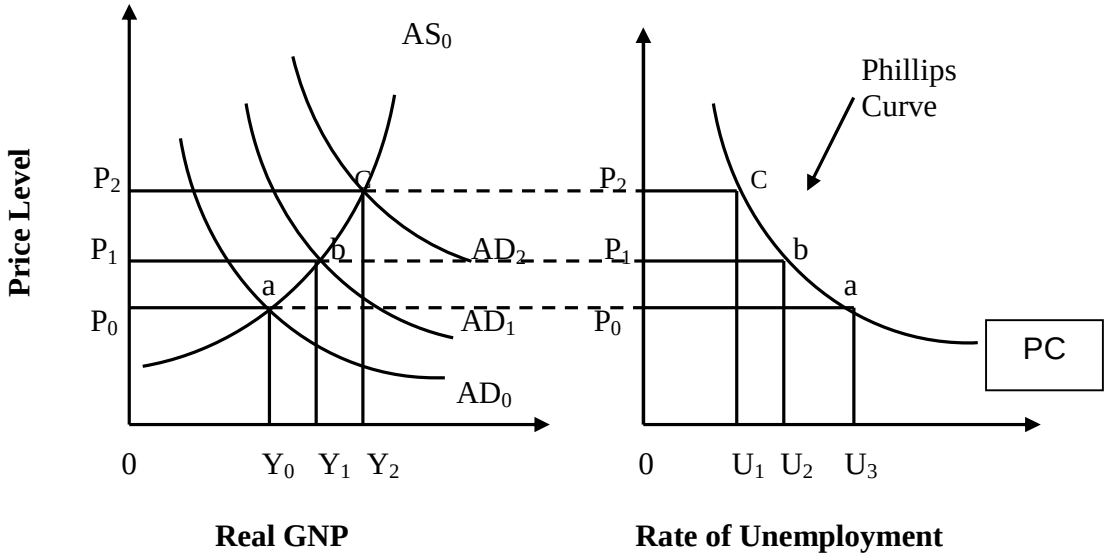


Fig.7.2 – Keynesian Explanation of Phillips Curve

7.3 COLLAPSE OF THE PHILLIPS CURVE HYPOTHESIS (1971-91)

The Phillips Curve hypothesis was accepted as a cure to increase the level of employment and income in the sixties. It became a macroeconomic tool to explain the tradeoff between inflation rate and unemployment rate. It suggested that policy makers could choose different combinations of unemployment inflation rates. Policy makers may choose low unemployment and high inflation as long as it is politically and economically expedient. However, the stable relationship between higher inflation and lower unemployment as seen in the sixties could not be replicated in the seventies and thereafter, particularly in the United States and Great Britain. It was seen that both inflation rate and unemployment rate had increased on numerous occasions and the tradeoff had thus disappeared. Further, there cannot be a long run tradeoff between inflation and unemployment because in the long run the aggregate supply curve becomes vertical and any further expansion after the point of full employment is reached will only add to the price level without adding anything to income, employment and output. Thus there is no permanent unemployment-inflation trade-off. Data obtained in the seventies and thereafter indicated a shift in the Phillips curve i.e. in various years, at a given rate of inflation, the Phillips curve either shifted to the left or to the right, indicating thereby that at times, given the inflation rate, unemployment rate has increased or decreased. The stable relationship between inflation rate and unemployment rate thus was proved to be non-existent.

Causes of Shift in Phillips Curve

The shifts in the Phillips curve according to Keynesians is due to adverse supply shocks experienced in the seventies in the form of unprecedented oil price hikes. Adverse supply shocks gave rise to the phenomenon of Stagflation and the breakdown of the Phillips curve hypothesis. The impact of adverse supply shocks on national product and the price level is depicted in Fig. 7.3. The original aggregate demand and supply curves AD_0 and AS_0 are in equilibrium at point E_0. Accordingly, the price level P_0 and national output Y_0 is determined. The oil price hike initiated by the Oil and Petroleum Exporting Countries (OPEC) an oil cartel of oil producing Middle East countries contributed to the rise in cost of production of a large number of goods and services in which oil is used as an input. Increase in the cost of production caused the aggregate supply curve to shift to the left in the upward direction, thereby causing the price level to rise along with a decrease in national output. Notice that the new aggregate supply curve AS_1 now intersects the aggregate demand curve AD_0 at point E_1 and accordingly the new price level P_1 is determined. However, at a higher price level P_1, the national output has fallen to Y_1 leading to rise in unemployment. Such a situation is explained in terms of stagflation where in both unemployment and price level increases. This new phenomenon experienced, particularly by the United States in the seventies and thereafter has caused the shift in the Phillips curve. Stagflation, thus, consigned the Phillips curve hypothesis to the pages of economic history.

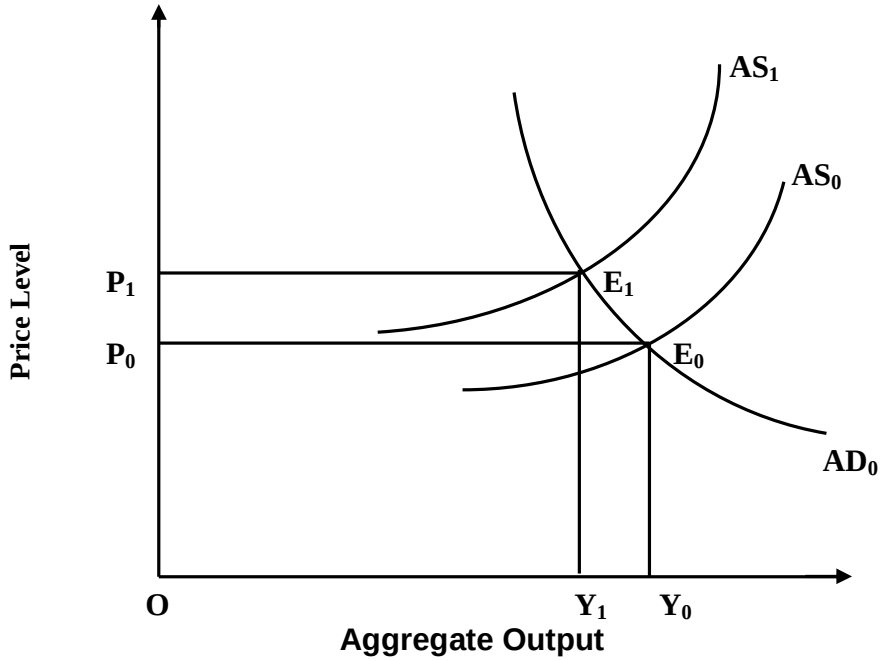


Fig. 7.3 – Adverse Supply Shock, Stagflation and Rejection of the Phillips Curve Hypothesis

7.4 NATURAL UNEMPLOYMENT RATE HYPOTHESIS AND THE THEORY OF ADAPTIVE EXPECTATIONS

Milton Friedman put forward the concept of 'natural rate of unemployment' to prove that the Phillips curve phenomenon does not operate in the long run and that the long run Phillips curve is vertically sloping, thereby having no relationship between inflation rate and unemployment rate. However, he accepted the fact that there exist a short run negative relationship between inflation rate and unemployment rate. Milton Friedman says that the economy is stable in the long run at the natural rate of unemployment and any intervention in the form of expansionary fiscal and monetary policies would only result in higher prices without higher output.

When current GDP is at its potential level, unemployment is not zero or there is no full employment. The unemployment rate that exists on account of frictional and structural reasons when the economy is operating at full employment level is called the natural rate of unemployment or more appropriately NAIRU (Non-accelerating Inflation Rate of Unemployment). The natural rate of unemployment is the rate at which in the labor market, the current number of unemployed is equal to the number of jobs available. Natural unemployment exists due to frictional and structural reasons. For example, fresh additions to the labor force may spend time to search suitable jobs. Individuals pursuing higher education may actually be in the labor force but may not participate in the workforce due to educational commitments. While the sunset industries may be on the decline and thereby reducing the workforce from its rolls, the sunrise industries would be expanding and adding to its workforce. However, unemployed labor force needs to be trained for suitable jobs before they are recruited. Unemployment arising out of frictional and structural causes is termed as natural unemployment and the number of such unemployed persons constitutes the natural rate of unemployment. In other words, Milton Friedman argues that if information were not to fail, there will be no divergence between full employment and actual employment. The natural rate of unemployment is estimated in the range of four to six per cent in the developed countries.

The term 'NAIRU' is a more appropriate term to describe the natural rate of unemployment because the term 'natural rate of unemployment' connotes that unemployment cannot fall below the natural rate. The Phillips curve hypothesis shows that unemployment rate can fall below the NAIRU in the short term. Thus, when actual GDP is greater than potential GDP ($Y > Y^*$), unemployment will be less than NAIRU ($U < U^*$) and vice versa. When the unemployment rate is below the NAIRU, demand forces

put pressure on wages to rise faster than productivity. When the unemployment rate is above the NAIRU, demand forces put pressure on wages to rise more slowly than productivity or even to fall. When unemployment is at the NAIRU, demand forces exert no pressure on wages relative to productivity.

In order to prove the non-existence of Phillips curve in the long run, Milton Friedman put forward the theory of adaptive expectations. People's expectations are formed on the basis of previous and present rate of inflation and adapt their expectations only when the actual inflation rate is different from their expected rate. The tradeoff between inflation and unemployment is therefore only in the short run. Milton Friedman's theory of adaptive expectations and the derivation of the vertically sloping long run Phillips curve is depicted in Fig.7.4.

It is assumed that the economy is operating at point A_0 on the short run Phillips curve (SPC_1) and the natural rate of unemployment is six per cent. The actual inflation rate is four per cent. The nominal wages are set on the basis of four per cent inflation rate and it is expected that the inflation rate will continue to be the same in future. When the government adopts expansionary monetary and fiscal policies, the inflation rate goes up to six per cent. Since the nominal wages are set on the basis of four per cent inflation rate, the firms make additional profits equal to two per cent and hence they make fresh investments, thereby increasing the level of employment and output. As a result of fresh investments, the unemployment rate falls below the natural rate of unemployment and the economy moves to point A_1 where the corresponding inflation rate is six per cent and the unemployment rate is three per cent. Thus, Milton Friedman and other monetarists argue that there exists a short run tradeoff between inflation rate and unemployment rate.

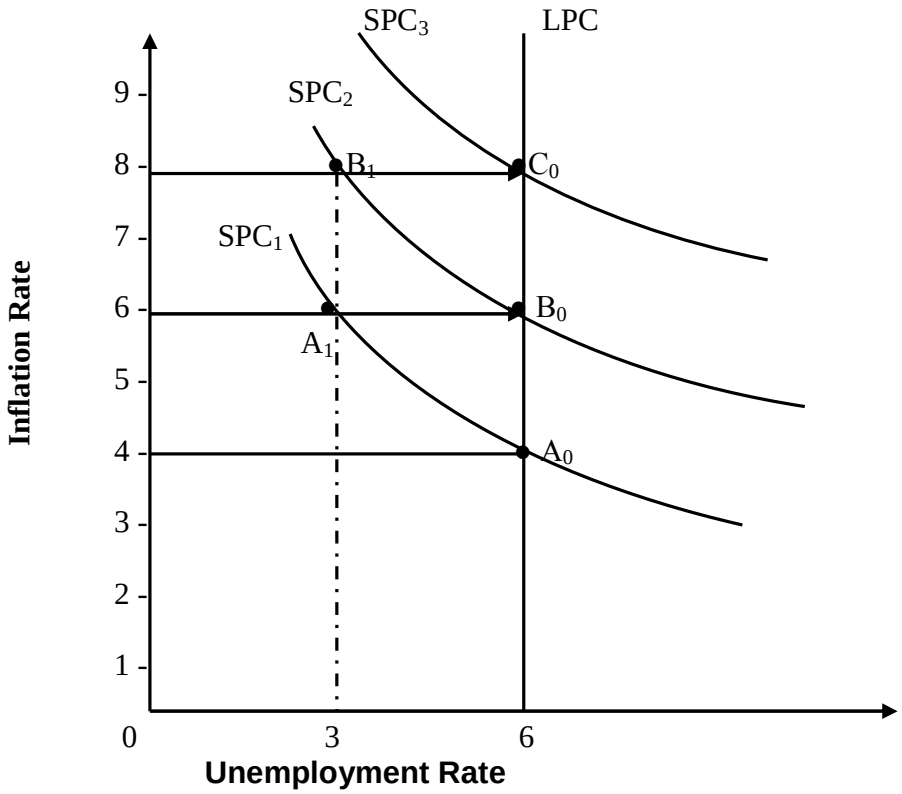


Fig.7.4 – Shift in the Short Run Phillips Curve & derivation of the Long Run Phillips Curve

7.5 LONG RUN PHILLIPS CURVE AND THE THEORY OF ADAPTIVE EXPECTATIONS

The economy after having reached point A_1 does not stay put at that point because after a time lag, the workers are informed that the current inflation rate is six per cent and that their real wages have fallen by two per cent. Organized workers will therefore demand compensation for the inflation which is over and above the expected rate in order to restore their real incomes. When wage compensation actually takes place, the profits levels are also restored to the original levels and the economy returns to its original equilibrium position at point B_0. However, point B_0 is on the new short run Phillips curve SPC_2. Corresponding to point B_0, the actual inflation rate is six per cent and the unemployment rate is back at its natural level i.e. six per cent. Now the expected inflation rate would be six per cent and workers will continue to expect the same rate of inflation in future. The shift in the Phillips curve will continue as long as expansionary monetary and fiscal policies are adopted by the Government and the economy will move along the points B_1, C_0 etc. When points such as A_0, B_0, C_0 are joined, the long run Phillips curve is obtained. Note that the LPC is vertically sloping and the vertical slope indicates that it is neutral between inflation rate and the unemployment rate. Milton

Friedman thus proves that there is no long run trade-off between inflation rate and unemployment rate. The theory of adaptive expectations indicate that workers adapt to the new rates of inflation and their expected inflation rate gets adapted in due course i.e. after a time lag and the economy returns to its original status with a higher rate of inflation.

7.6 RATIONAL EXPECTATIONS AND THE LONG RUN PHILLIPS CURVE

According to Milton Friedman's theory of adaptive expectations, nominal wages lag behind changes in the price level or the inflation rate. The adjustment lag in nominal wages to the price level causes business profits to go up. When profits go up, business units expand their scale output and as a result the level of unemployment in the economy falls below the natural rate.

The advocates of rational expectation theory believe that there is no adjustment lag involved between nominal wages and changing price level. They argue that there is a quick adjustment between nominal wages and expected changes in the price level and hence there is no trade-off between inflation and unemployment. The rate of inflation resulting from increase in aggregate demand is well anticipated by workers and firms and gets factored in wage agreements. Such adjustments made in quick succession sometimes and sometimes in advance lead to further price increases. Thus, there is a rise in the price level without any rise in the real output or fall in unemployment below the natural rate. According to the Rational Expectations theorists, given the availability of resources and technology, the aggregate supply curve is vertically sloping at the potential GDP level or at the natural unemployment rate level. The long run Phillips curve therefore corresponds to the long run aggregate supply curve at the natural rate of unemployment. The long run Phillips curve is therefore a vertical straight line or vertically sloping at the natural rate of unemployment. The derivation of the long run aggregate supply curve is shown in Fig. 7.5 and the long run Phillips curve is depicted in Fig. 7.6.

According to the Rational Expectations theorists, the workers and firms are rational beings and have a good understanding of the operation of the economy. Both workers and firms can therefore fairly and correctly anticipate the consequences of the economic policies of the Government. Secondly, all product and factor markets are very competitive and hence factor and product prices are highly flexible to bring about quick and rapid adjustments. Figure 7.6 shows the argument made by Rational Expectations theorists about the relation between inflation and unemployment.

The original equilibrium is at point 'a' where the initial short run aggregate demand curve AD_0 and the short run aggregate supply curve AS_0 intersect each other and the equilibrium, full employment, national output OY_0 and price level P_0 is determined, given the natural rate of unemployment.

Now when the government adopts expansionary monetary and fiscal policies, the economic units or the factor owners will correctly anticipate the inflationary impact of these policies and make upward adjustment in factor and product prices thereby holding real national output and real wages at their original level. The shift in the short run aggregate demand and supply curves will therefore be vertically upward as shown in the figure. The economy now operates at the new equilibrium point 'b' which is corresponding to the original equilibrium point 'a'. However, the equilibrium is achieved at a higher price level P_1. At every occasion when the Government adopts expansionary policies when the economy is operating at the full employment level of income and output, the aggregate demand and supply curves behave in the same manner and the equilibrium point changes from point 'b' to point 'c' and so on and so forth. By joining these points, the Long Run Aggregate Supply curve is obtained. Note that the long run AS curve is vertically sloping indicating thereby that once the full employment equilibrium income and output is determined at the natural rate of unemployment, any expansionary policy will only result in price rise, real national output remaining constant.

As the long run aggregate supply curve is vertically sloping at the natural unemployment rate, the long run Phillips curve is also vertically sloping.

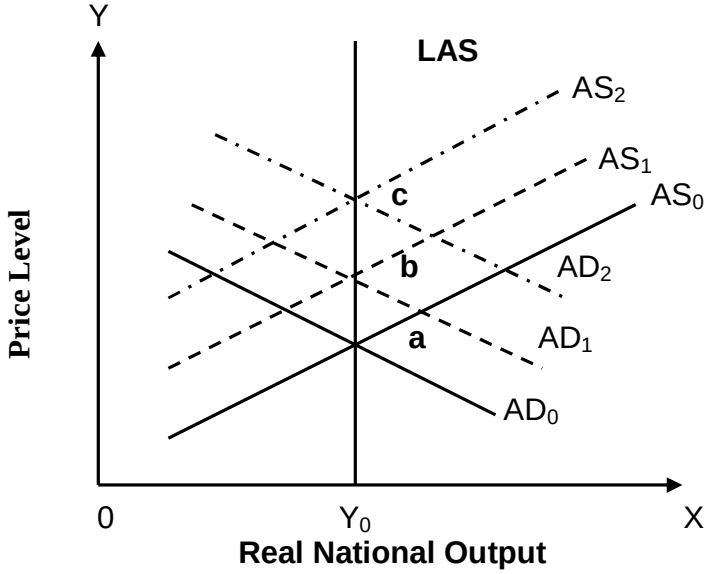


Fig.7.5 – Inflation and Output (Rational Expectations Theory)

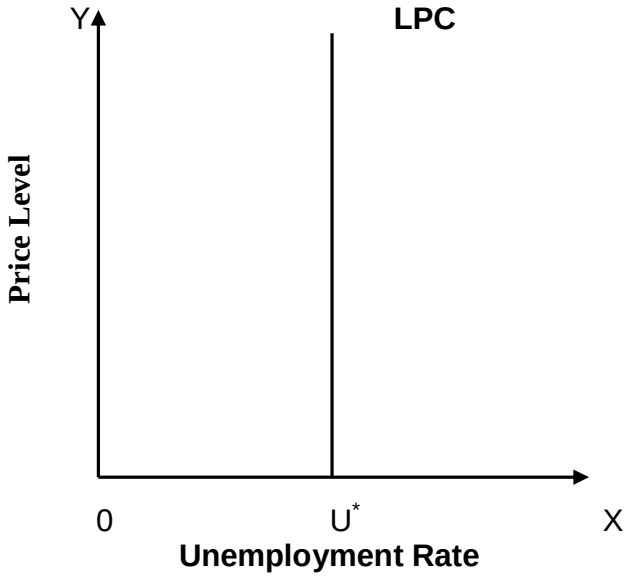


Fig.7.6 – The Long Run Phillips Curve (Rational Expectations Theory)

7.7 RELATIONSHIP BETWEEN SHORT AND LONG RUN PHILLIPS CURVE

The position of the short run Phillips curve passing through a long run Phillips curve is determined by the anticipated or expected inflation rate. The short run Phillips curve can be compared to the short run aggregate supply curve because both the curves are drawn with a given expected price level. The short run Phillips curve drawn with an expected inflation rate shifts its position as the inflation rate changes (See figure 7.7). If the expected inflation rate is six per cent, the short run Phillips curve (SPC_1) also passes through the corresponding point 'A_0' on the long run Phillips curve with natural unemployment rate of six per cent. The movement along a short run Phillips curve is determined by changes in aggregate demand. When there is an unexpected increase in aggregate demand, the actual inflation rate is found to be more than the expected inflation rate and the real national output increases causing the unemployment rate to fall below the natural rate. The new short run equilibrium is determined at point 'A_1' which is to the left of the original equilibrium point. Conversely, if there is an unexpected decrease in aggregate demand, the actual inflation rate will fall below the expected rate and the unemployment rate will increase and real national output will fall. In this case, the movement will be downwards and to the right. The shift in the short run Phillips curve is caused due to the divergence between actual and expected inflation rates and this divergence is caused by unexpected changes in monetary and fiscal policies of the government. If the actual inflation rate is greater than the

expected inflation rate, the short run Phillips curve will shift upward and vice-versa. The distance by which the short run Phillips curve shifts to a new position is equal to the change in the expected rate of inflation.

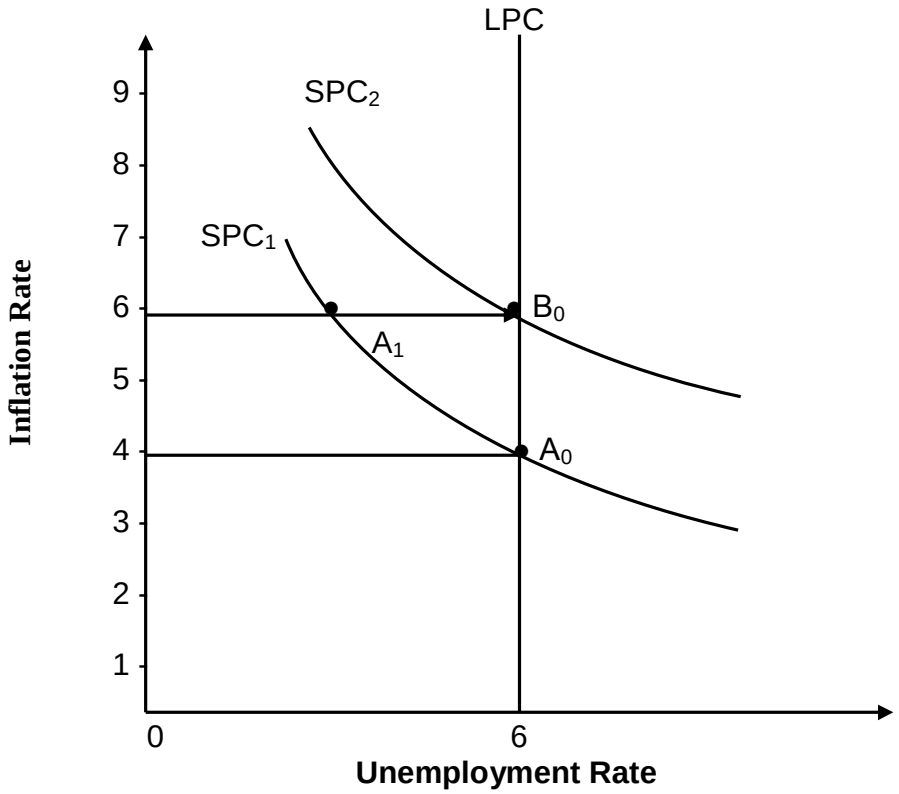


Fig.7.7 – Relationship between the Short Run Phillips Curve and the Long Run Phillips Curve

7.8 SUMMARY

1. AW 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 tradeoff between wage inflation and unemployment. The Phillips curve shows that the rate of wage inflation decreases with the increase unemployment rate.
2. The Phillips Curve became a macroeconomic tool to explain the tradeoff between inflation rate and unemployment rate in the sixties.
3. There cannot be a long run tradeoff between inflation and unemployment because in the long run the aggregate supply curve becomes vertical and any further expansion after the point of full employment is reached will only add to the price level without adding anything to income, employment and output. Thus there is no permanent unemployment-inflation trade-off.

4. The shifts in the Phillips curve according to Keynes is due to adverse supply shocks experienced in the seventies in the form of unprecedented oil price hikes. Adverse supply shocks gave rise to the phenomenon of Stagflation and the breakdown of the Phillips curve hypothesis.
5. Milton Friedman says that the economy is stable in the long run at the natural rate of unemployment and any intervention in the form of expansionary fiscal and monetary policies would only result in higher prices without higher output.
6. The theory of adaptive expectations indicate that workers adapt to the new rates of inflation and their expected inflation rate gets adapted in due course i.e. after a time lag and the economy returns to its original status with a higher rate of inflation.
7. According to the Rational Expectations theorists, given the availability of resources and technology, the aggregate supply curve is vertically sloping at the potential GDP level or at the natural unemployment rate level. The long run Phillips curve therefore corresponds to the long run aggregate supply curve at the natural rate of unemployment. The long run Phillips curve is therefore a vertical straight line or vertically sloping at the natural rate of unemployment.

7.9 QUESTIONS

1. Explain the trade-off between inflation and unemployment with the help of Phillips curve analysis.
2. Explain the derivation of the Phillips curve with the Keynesian AD-AS model.
3. Write a note on the collapse of the Phillips Curve Hypothesis.
4. Explain the natural rate of unemployment hypothesis and the theory of adaptive expectations.
5. Explain the long run Phillips curve and the theory of adaptive expectations.
6. Explain the theory of Rational Expectations and the long run Phillips curve.
7. Explain the relationship between the short and the long run Phillips curve.

8

Module 3

BANKING AND INTEGRATION OF PRODUCT AND MONEY MARKETS

Unit Structure :

8.0 OBJECTIVES

- To understand the meaning and functions of a commercial bank
- To study assets and liabilities of commercial banks
- To study trade off between liquidity and profitability
- To study factors determining liquidity and profitability
- To understand the concept of money multiplier

8.1 COMMERCIAL BANK

According to the Banking Regulation Act 1949, banking is defined as **"accepting for the purpose of lending or investment of deposits of money from the public repayable on demand or otherwise and can be withdrawn by check, draft, and order or otherwise".** A commercial bank is therefore a financial institution which deals in money or credit. It accepts cash deposits from the public and lends the deposits to borrowers in the form of loans and advances against collateral securities and makes profits. The difference between the deposit rates and lending rates is known as the **interest spread.** Interest spread constitutes the major part of the profits of a commercial bank. The deposits in a commercial bank are used to settle debts through the instrument of check.

According to RS Sayers, “Banks are institutions whose debts usually referred to as bank deposits – are commonly accepted in final settlement of other people’s debts.” Sayers’ definition highlights the credit creating abilities of commercial banks which is central to any commercial bank also a distinguishing feature from other financial institutions like term lending financial institutions, investment banks, insurance firms etc.

8.2 ASSETS AND LIABILITIES OF COMMERCIAL BANKS

The following table contains a hypothetical balance sheet of a commercial bank. The balance sheet contains the details of a bank’s current assets and current liabilities. The balance sheet indicates the manner in which the bank has raised funds and invested them in various kinds of assets. The liabilities of the bank are the items which are to be paid by it either to its shareholders or depositors. The assets are those items from which the bank hopes to get income and therefore includes the entire amount owed by others to the bank.

The Liabilities of a Commercial Bank:

The liabilities of the commercial bank show how the bank raises funds. A commercial bank gets funds in three different ways. They are: share capital, reserve fund and deposits from the public. Reserve fund and share capital put together constitute the net worth of the bank.

1. **Share Capital:** Share capital is the contribution made by the share holders. The commercial banks raise their share capital like other joint stock companies. The share capital may also be partially paid up as subscribers to the bank’s share capital may only be asked to make part payment. Hence the share capital of the bank generally consists of the paid-up capital. Promoters of commercial banks decide the authorized capital. The authorized capital is issued in parts and according to the development requirements of the bank.

2. **Reserve Fund:** Reserve fund is the amount accumulated over the years out of undistributed profits. Under the banking law, commercial banks are not allowed to distribute the entire profit in the form of dividends. A part of the profit has to be retained by the bank as Reserve funds to meet contingencies. According to the Indian Banking Regulation Act, 1949, commercial banks are required to retain at least 20 per cent of their profit every year as reserve. Reserve accumulation can continue as long as it does not become equal to the paid up capital of the bank.

3. **Deposits:** Deposits from the public constitute the largest source of the bank's working funds. Deposits are accepted by the banks in three different forms. They are: fixed deposits, savings deposits and current deposits. Current deposits are generally operated by firms. There are no restrictions on the number of withdrawals from these accounts. Banks do not pay interest on current account. Current account balances are interest-free balances. Savings deposits are operated by individuals (salary earners), trusts etc. Banks offer low interest rates on savings account deposits. Checks can be drawn on these accounts. The number of withdrawals and the maximum amount that can be withdrawn at any time is however, restricted. The lending business of the banks depends upon deposit money. Banks accept deposits under certain conditions and withdrawals are permitted according to the rules and regulations of the banks.

4. **Borrowings:** Banks also borrow from the Central bank, other banks (national and foreign) and financial Corporations on a temporary basis. When the liquidity position of commercial banks is not good enough to meet the demands made by depositors, they have to depend upon borrowings.

5. **Other Liabilities:** Other items include bills payable such as drafts, traveler's checks; pay slips, banker's checks etc. The interest accrued but not due on deposits and borrowings is also entered under this head.

The Assets of a Commercial Bank:

Assets of a bank are shown in the balance sheet in order of their liquidity. Cash is the most liquid asset and hence it assumes the prime position. The asset side of the balance sheet indicates the manner in which funds received by banks are deployed.

1. **Cash:** The bank holds a small part of total deposits in the form of cash reserves. Cash reserves include cash with bank and cash held either with other commercial banks or with Central Bank. On a given day, the receipt of cash may be less than the payments which the bank is required to make. Cash reserves are held by commercial banks to meet excess demand for cash by customers.

2. **Money at call and short notice:** It relates to short term loans to the money market which can be called back by the bank at a very short notice of one to seven days. These assets are highly liquid and carry low interest rates. The stock brokers, dealers in commercial bills and discount houses are generally the borrowers in this segment of bank loans. Banks also borrow at short notice from other commercial banks through what is known as the Inter-bank Call Money Market to meet their short term liabilities.

3. **Investment:** Investment constitutes funds invested in government securities, shares etc which are generally medium and short term securities. Commercial banks make investments in securities as these investments are more profitable than bank lending. Commercial bank prefers Central and State government securities because investment in these securities is not only safe but also are eligible as collaterals for raising funds.

4. **Bills discounted & Loans and Advances:** Banks give **loans and advances** to the customers and these constitute the major part of their asset portfolio. Bank loans are classified into three categories. These are ordinary loans and advances, overdraft and cash credit. Loans and advances are offered in fixed amounts repayable on demand or in installments. Loans are of two types. These are: demand loans and term loans. Demand loans are to be repaid when demanded by the creditor. Demand loans are mainly short term loans. Term loans are offered for a period more than one year with a repayment schedule. Cash credits and overdrafts are running accounts from which the borrower can withdraw funds as when required and up to the credit limit sanctioned by the banks. Cash credit is sanctioned against the security of commodity stock. Overdrafts are allowed on current accounts. Interest is charged on the outstanding amount borrowed and not on the credit limit sanctioned.

5. **Bills discounted:** constitute bank funds which are used to discount the commercial and treasury bills. The maturity period of commercial bills of exchange is less than three months. Commercial banks can rediscount these bills from the Central bank or can sell them in the market. Commercial banks also buy and sell treasury bills.

6. **Other Assets:** Other assets include fixed assets such as premises which are wholly or partly owned by the bank for business and residential purpose, furniture and fixtures.

Table 8.1: Assets & Liabilities of a Commercial Bank

	Liabilities		**Assets**
1.	Share Capital	1.	Cash in hand,
2.	Reserve Funds		Cash with Central bank and
3.	Deposits :		Cash with other banks
	i) Time deposits.	2.	Money at call and short notice.
	ii) Demand deposits.	3.	Investments.
	iii) Savings deposits.	4.	Bills discounted including treasury bills, Loans and Advances.
4.	Borrowings		
5.	Other items	5.	Other items.

8.4 TRADE-OFF BETWEEN LIQUIDITY AND PROFITABILITY

Liquidity and profitability are principles of sound banking system. Liquidity refers to the conversion of assets into cash and profitability refers to the net return on the funds possessed by the commercial banks. Every commercial bank is motivated by profit and profit maximization is the main objective. However, the profit maximization motive is limited by the considerations of liquidity and solvency criteria determined under prudential banking norms. The requirements of profitability and liquidity are the opposing claims which the commercial bank has to balance. The concepts of liquidity and profitability are explained below.

Concept of Liquidity: A bank is said to be liquid when it is able to meet all its current demand liabilities. It is the ability of the commercial bank to pay deposits on demand. The other type of liquidity is loan liquidity which refers to the bank's ability to meet all the legitimate credit requirements of its customers. The higher the deposit liquidity, the lower will be the loan liquidity as the bank's ability to meet the customers' loan requirements would be reduced by the extent of cash disbursal to meet the deposit liquidity. The deposit liquidity depends on the composition of deposits and their stability. The larger the demand component of deposits, the greater is the need for deposit liquidity.

Further, the larger the instability of deposits, the greater is the need for deposit liquidity. If the need for deposit liquidity is greater the banks will have to keep more of their funds in cash or short term assets like treasury bills, commercial paper and inter-bank loans. Loan liquidity depends upon the loan requirements of bank's customers. If the demand for loans is greater than the supply of deposits, the commercial banks will have to keep more of there funds in short term assets to meet the increase in loan demands. The concepts of liquidity and solvency go hand in hand. A commercial bank should not only be liquid but also solvent to enjoy the confidence of its depositors. A commercial bank is said to be solvent if its total assets are greater than total liabilities and paid up capital and reserves are greater than zero. The factors that influence liquidity can be listed as: statutory requirements, banking habits of the people, monetary transactions, nature of money market, structure of the banking system, number, size and nature of deposits.

Concept of Profitability: Profits of commercial banks depend upon the income earning assets. The commercial banks can increase their profitability by disbursing more long term loans. However, commercial banks have to strike a balance between

liquidity and profitability. While the commercial banks have to make profits to meet the demand of the shareholders, they also have to maintain liquidity to meet the demands of depositors. There is a trade-off involved between liquidity and profitability i.e. more profitability means less liquidity and vice versa. The factors that influence profitability can therefore be listed as: deployable working fund cost of funds, rate of return on funds deployed, interest spread, operating costs, risk provisioning and competition.

8.5 TRADE-OFF BETWEEN LIQUIDITY AND PROFITABILITY

Commercial banks must make profits for its survival and growth. At the same time, it must maintain a certain amount of liquidity. In order to reconcile between the conflicting objectives of earning more profits and maintaining liquidity, a commercial bank has to choose a portfolio of assets that will strike a balance between these two opposing objectives. The cash and income earning assets combination which a bank chooses is its portfolio. The maturity structure of its portfolio depends on both these criteria. The longer the maturity, the greater will be the income earning ability of the portfolio and the lower will be the liquidity. A higher level of liquidity can be held by banks only by sacrificing some income earning assets or profits. The trade-off between liquidity and profitability is depicted in Fig.8.1 below.

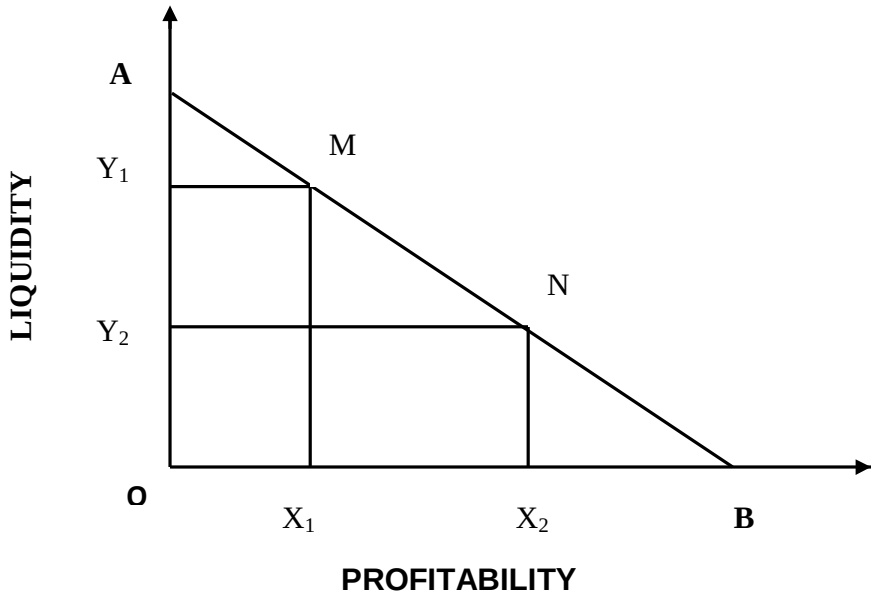


Fig.8.1: Profitability and liquidity of Assets

You will notice that when OY_1 is the level of liquidity, the profitability of the assets of commercial banks is only OX_1. When more liabilities are converted into assets, the level of liquidity

comes down to OY_2. However, the profitability of assets goes up to OX_2. Thus the banks have to sacrifice Y_1 Y_2 amount of liquidity to gain more profits equal to X_1 X_2. This explains the trade-off between liquidity and profitability.

8.6 MONEY MULTIPLIER

Currency reserve ratio 'r' of the banks (which determines deposit Money multiplier is the degree to which money supply is expanded as a result of the increase in high powered money. Thus m = M/H or M = H.m. Thus money supply is determined by the size of money multiplier (m) and the amount of high powered money (H). The size of the money multiplier is determined by the multiplier) and currency deposit ratio of the public (k) which together determines the size of money multiplier.

Size of the Multiplier

The money supply (M) consists of currency with the public (C_p) and demand deposits with the banks. Thus:

$$M = C_p + D \qquad \text{…….(1)}$$

The public hold the amount of currency in a certain ratio of demand deposits with the banks which is denoted by 'k'. Therefore, $C_p = kD$
Substituting kD for C_p in equation (1), we get:

$$M = kD + D = (k + 1)D \qquad \text{…(2)}$$

The equation of high powered money (H) is:

$$H = C_p + R \qquad \text{……(3)}$$

Where R represents cash or currency reserves which banks keep as a certain ratio of their deposits and is called cash reserve ratio and is denoted by 'r'. Thus

$$R = rD$$

Substituting rD for R and kD for C_p in equation (3), we get:

$$H = kD + rD \text{ or}$$

$$H = (k + r)D \qquad \text{……(4)}$$

The money multiplier is a ratio of total money supply to the high powered money. Therefore, equation (1) will be divided by

equation (4) to get the value of multiplier which is denoted by 'm'. Thus,

$$m = \frac{M}{H} = \frac{(k+1)D}{(k+r)D} = \frac{k+1}{k+r}$$

Or, money multiplier

$$m = \frac{M}{H} = \frac{(1+k)}{(r+k)}$$

Or

$$M = H\,\frac{1+k}{r+k} \qquad \ldots\ldots\ldots\ldots(5)$$

Where 'r' = cash reserve ratio of the banks.
'k' = currency deposit ratio of the public.

Money supply is therefore determined by the following:

1. H or the amount of high powered money.
2. 'r' or the cash reserve ratio of banks (i.e. ratio of currency reserves to deposits of the banks). The CRR determines the magnitude of deposit multiplier.
3. 'k' or the currency deposit ratio of the public.

A change in money supply will take place:

1. When the supply of high powered money (i.e. reserve money) H changes.
2. When the currency deposit ratio (k) of the public changes, and
3. When the cash or currency reserve deposit ratio of the banks (r) changes.

Cash Reserve Ratio (CRR) and the Deposit or Credit Multiplier

The deposit or the credit multiplier (d_m) is the reciprocal of the cash reserve ratio (r). Therefore $d_m = 1/r$. If the CRR is five per cent of deposits, then $d_m = 1/0.05 = 20$. The deposit multiplier of 20 indicates that for every Rs.100 increase in cash reserves with the commercial banks, the demand deposits of the banks will expand by Rs.2000. This will happen only if leakage of cash to the public does not occur during the deposit multiplier process.

Currency Deposit Ratio and Multiplier

The actual expansion in bank deposits does not take place to the extent of the deposit multiplier because there will be some leakage from the stream of derivative deposits created by the banking system. The greater the leakage of cash, the lower will be the money multiplier. The currency deposit ratio (k) is an important determinant of the money multiplier. Thus, greater the currency deposit ratio, lower will be the money multiplier and vice versa. Further, banks may hold cash reserves in excess of the cash reserve ratio fixed by the Central Bank. Excess cash reserves will also reduce the size of the money multiplier.

8.7 SUMMARY

1. According to the Banking Regulation Act 1949, banking is defined as **"**accepting for the purpose of lending or investment of deposits of money from the public repayable on demand or otherwise and can be withdrawn by check, draft, and order or otherwise".

2. The balance sheet indicates the manner in which the bank has raised funds and invested them in various kinds of assets. The liabilities of the bank are the items which are to be paid by it either to its shareholders or depositors. The assets are those items from which the bank hopes to get income and therefore includes the entire amount owed by others to the bank.

3. Commercial banks must make profits for its survival and growth. At the same time, it must maintain a certain amount of liquidity. In order to reconcile between the conflicting objectives of earning more profits and maintaining liquidity, a commercial bank has to choose a portfolio of assets that will strike a balance between these two opposing objectives.

4. Money multiplier is the degree to which money supply is expanded as a result of the increase in high powered money. Thus m = M/H or M = H.m. Thus money supply is determined by the size of money multiplier (m) and the amount of high powered money (H). The size of the money multiplier is determined by the currency reserve ratio 'r' of the banks (which determines deposit multiplier) and currency deposit ratio of the public (k) which together determines the size of money multiplier.

8.8 QUESTIONS

1. What is a commercial bank? Explain the Assets and Liabilities of Commercial Banks.
2. Explain the concepts of liquidity and profitability in the context of Commercial Banking system. Is there a trade-off between the two?
3. Write a note on the money multiplier.

9

MONETARY POLICY – OBJECTIVES AND INSTRUMENTS

Unit Structure :

9.0 OBJECTIVES

- To understand the meaning of monetary policy
- To study the objectives of monetary policy
- To understand different quantitative and qualitative credit control instruments of monetary policy
- To study the limitations of monetary policy

9.1 MONETARY POLCY

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 macro-economic 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. Business

cycles 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.

9.2 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 and

general 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 of

inflation 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.

(D) 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.

9.3 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. W hen 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 and advances made to different categories 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.

9.4 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 under-developed 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.

9.5 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.

9.6 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.

10

FISCAL POLICY – INSTRUMENTS AND OBJECTIVES

Unit Structure :

10.0 OBJECTIVES

- To understand the meaning of Fiscal policy
- To study the objectives of Fiscal policy
- To study instruments of Fiscal policy
- To study limitations of Fiscal policy

10.1 MEANING OF FISCAL POLICY

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 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 defines 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.

10.2 OBJECTIVES OF FISCAL POLICY

In the foregoing section, we have discussed the meaning of fiscal policy and while it was being done, the macro-economic goals of fiscal policy have been made abundantly clear. Although, both fiscal and monetary policies are complementary and supplementary to each other and that their goals are almost the same, the objective of social justice and equity can only be realized through the operation of fiscal policy. There is hardly any difference in the macro-economic goals of countries both highly developed and less developed or developing countries. However, under-developed, less developed or developing countries may lay greater emphasis on the goal of such justice and equity, not because of wide inequalities of income but because of massive land rampant poverty in these countries. Highly advanced countries have greater income inequalities than developing countries but they do not confront the problem of poverty as much as the developing countries. For instance, in 1997, in India 44.2% of the population lived below the poverty line according to the internationally accepted measure of poverty i.e. people with less than$1 per capita per day income whereas in the advanced countries, the problem of poverty measured at $1 per day per capita does not seem to exist. For instance, the standard definition of poverty in the United States is based on the subsistence cost of living lo family of four. Accordingly, the subsistence cost of living of a family of four was estimated to be $ 15,569 in 1995. You will now appreciate that inequalities of income is not a macro-economic issue in the United States whereas it is major issue in poor countries like India.

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. How the operation of fiscal policy helps to achieve these goals is explained below.

1. High Level of Employment

While the macro-economic goal of high employment remains the same, the nature of unemployment differs. In developed countries, unemployment is largely cyclical and frictional in nature whereas in poor countries, in addition to cyclical and frictional unemployment, there may be structural unemployment of a different type. For instance, in India we have a wide variety of unemployment types. The most rampant types are disguised and seasonal unemployment in the agricultural sector. Further, there is a problem of under-employment which is also massive on account of a faulty HRD policy. In advanced countries, cyclical unemployment is caused due to deficiency in aggregate demand which can be eliminated by compensatory public spending through a deficit budget. The government can spend huge amounts of money on public works programs and generate employment. Cyclical or recessionary unemployment can be corrected only by raising the level of aggregate demand. One of the important causes of unemployment in poor and developing countries is the inadequacy of investible resources. They are labor abundant and capital scarce. Fiscal policy should aim at improving the level of savings by giving tax incentives and also promote labor intensive industrial growth by giving tax holidays and subsidies. The problem of disguised and seasonal unemployment can be eliminated by large scale public works programs on the one hand and rapid industrialization on the other. However, fiscal policy alone cannot eliminate the problem of unemployment because of its sheer magnitude and variety. A proper agricultural policy, education policy and a population policy will have to work together to eliminate the peculiar problem of unemployment in developing countries.

2. Sustained Economic Growth

Sustained economic growth refers to a recession free economic growth. The economy is said to be growing when the quantity of goods and services produced in a given year is more than that of the previous year and when this happens year after year we may say that the economy is growing in a sustained manner. However, it is the rate of growth of national output that determines the sustainability of the growth process. The rate of growth of output is determined by the capital output ratio. Assuming a capital output ratio of 1:5, a sustained growth rate of five percent per annum would need an investment of 25 per cent of the national income year after year. This means that the savings rate in the economy must be 25 percent per annum. Fiscal policy therefore must be geared to improve or target the savings rate in the economy. Economic growth as a macro-economic goal remains the same in all countries. However, the process of

economic growth should be consistent with other macro-economic goals such as high employment, economic stability and social justice. Further, the rate of economic growth should be greater than the rate of population growth so that along with sustained economic growth, the per capital income also rises in a sustained manner.

3. Economic Stability

A consistent net positive growth of the economy can be referred to as economic stability. A creeping rate of inflation between 0 to 3 per cent is implicit in the term economic stability. A persistently high growth rate in the real national income is absolutely desirable. What is not desirable along with high economic growth is high rate of inflation. An inflation rate of more than five per cent per annum should be considered de-stabilizing much because the inflation rate is well below the three per cent mark in advanced countries. It is not the fiscal deficit per se that causes high price rise, it is in fact the use of this deficit for non-productive purposes that leads to price rise. A moderate fiscal deficit of less than four per cent of the GDP is considered consistent with economic stability. In India, the average inflation rate has been consistently closer toward the double digit mark because of the persistently high fiscal deficit. For instance, the combined fiscal deficit of the Centre and the States in 2000-01 was 10 per cent of the GDP.

In order to impart economic stability, fiscal policy essentially should be counter cyclical in nature. The upswings land downswings of the business cycles needs to be controlled. If the prosperity phase of the business cycle is accompanied by high rate of inflation, fiscal policy must be contractionary to control inflation. Prices rise persistently because aggregate demand is persistently higher than aggregate supply of goods and services. A contractionary fiscal policy by way of reduced public spending and increase in the taxes can reduce the level of aggregate demand and prices Similarly, in a recessionary situation i.e. when the rate of growth of the economy is consistently falling, an expansionary fiscal policy will be essential. Increased public spending and reduced taxes will lead to expansion in aggregate demand, investment, employment, output, income and prices.

An inflationary situation is not considered al that problematic in the economy as long as inflation remains in single digit and stable and wage and salary earners, both organized and otherwise are compensated for the price rise by dearness allowance payment. However, a deflationary situation is considered highly alarming because it is accompanied by fall in employment, output, income and prices. Further, a deflationary situation is compounded

because organized labor is rigid in terms of a downward revision in wages and salaries which may spin the deflation further down into a depression. Fiscal policy is found to be extremely effective in controlling deflation and depression because it involves huge increases in government spending and raising the level of aggregate demand in the economy.

4. Social Justice and Equity

A socially just income distribution can be ensured only if the principle of equity is borne in mind while determining the pattern of income distribution. The concept of equity has two dimensions, namely the horizontal and vertical. When equal people are compensated or taxed equally, horizontal equity is said to be established. When unequal people are compensated and taxed unequally, vertical equity is said to be established. However, the objective of vertical equity is to reduce the extent of income inequality between unequal people so that the undesirable consequences of unequal incomes are reduced to the minimum. The per capita consumption of an Alsatian dog in a rich family may be equal to that of the food consumption of a poor wage earning family of four. Market mechanism is inherently incapable to address the polarity of income distribution or consumption. Hence, State intervention is the only possible solution to reduce the extent of inequalities in income, eliminate abject or absolute poverty. Fiscal policy is effective enough to address the problem of social justice and income inequalities by the following measures:

a) Increasing the rate of investment and capital formation.
b) Encouraging a socially optimum pattern of investment.
c) Reducing income inequalities.
d) Controlling inflationary pressures in the economy.

The rate of investment and capital formation can be increased by increasing the saving- GDP ratio and by restricting actual and potential consumption. Consumption can be controlled by imposing quantitative restriction on the availability of non-essential consumption goods. Savings can be mobilized by public borrowing programs and supplementary taxes. The government can use fiscal policy measures to redirect investment in a socially desirable manner. Investment in economic overheads such as infra-structure, basic and capital goods industries and social overheads such as health, education and welfare will not only generate huge employment opportunities but also uplift the health, hygienic and economic conditions of the masses. Income inequalities can be reduced by a system of progressive taxation based on the principle of ability to pay. Thus the lowest income brackets must be excluded from the tax net and higher income groups must be taxed higher and in a progressive manner. In this

way, the government can mobilize tax revenue and redistribute the income in favor of the poor by implementing poverty eradication, health improvement and employment generation programs. Inflationary forces in the economy tend to widen income inequalities. Firstly, there is a time gap between price rise and compensation of the price rise. Secondly, price rise compensation in the form of dearness allowance is available only organized labor.

10.3 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.

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.

1. 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 public spending 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 $k = \frac{1}{1-0.8}$

i.e. $k = \frac{1}{0.2}$

k = 5

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.

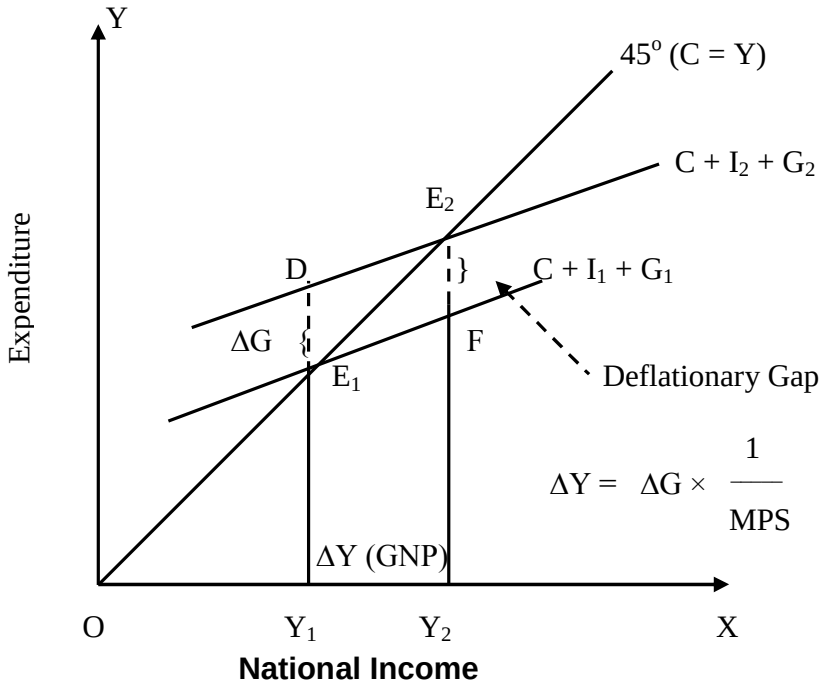


Fig. 10.1 - Compensatory Increase in Government Expenditure as an Example of Anti-recessionary Fiscal Policy

Let us assume that the economy is operating at Y_2 level of output and the aggregate demand curve $C + I_2 + G_2$ is intersecting the 45^o line at point E_2. 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. $(C + I_1 + G_1)$ and the economy shrinks to a lower equilibrium position E_1 with Y_1 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 E_2F creates a deflationary gap and the national income shrinks by Y_2Y_1 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 E_1D, shifting the aggregate demand curve to its original position $C + I_2 + G_2$ and national income to Y_2. The increase in national income Y_1Y_2 is equal to:

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

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.

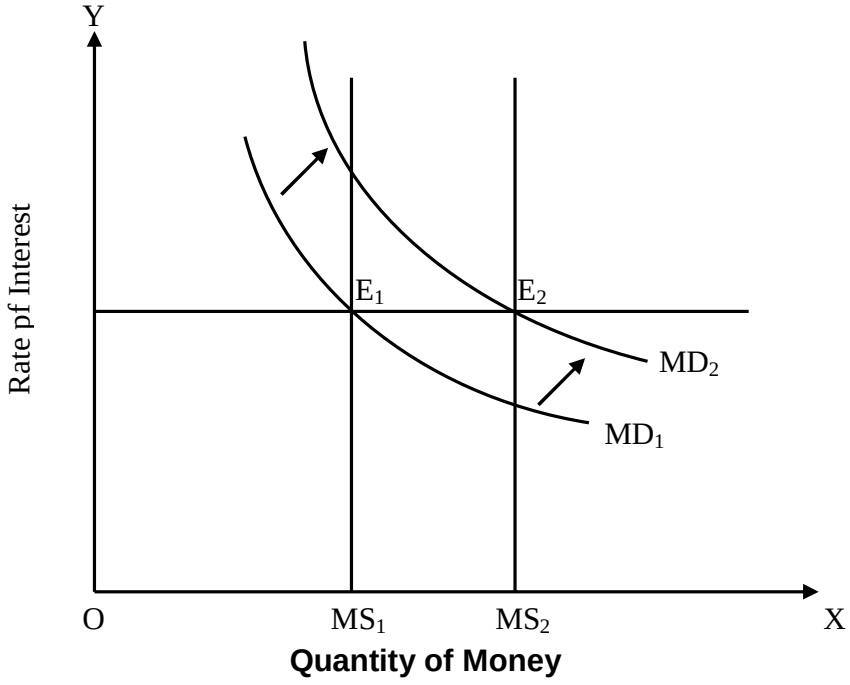


Fig.10.2 - Expansionary monetary Policy to prevent the interest rate from rising as a result of expansionary Fiscal Policy

It can be seen from Fig.10.2 that the Money Demand Curve shifts towards the right as a result of rise in income and employment. Given the money supply curve MS_1 and the new demand curve MD_2, the rate of interest will rise. However, to keep the interest rate constant, the Central Bank must increase money supply by $MS_1 - MS_2$. As a result of increased money supply, the money demand curve MD_2 intersects the money supply curve MS_2 at point E_2 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-recessionary Fiscal 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. $1T \times \frac{0.8}{1-0.8}$ = `1 Trillion × 4 = `..4 Trillion.

Or

`80,000 Crores $\times \frac{1}{1-0.8}$ = `80,000 Crores × 5 = `4 Trillion.

Thus reduction in taxes will lead to increase in consumption demand until the tax multiplier process exhausts itself and in the process will also lead to increase in income and employment. However, you will notice that the expansionary effect of a policy of tax reduction is less than that of a policy of budget deficit. In our

earlier 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 `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 government initiated 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 + G_1 intersect the 45^o line or the line of unity (C = Y) at point 'E_1' and determines equilibrium national income and output at point Y_1 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 E_2. The new aggregate demand curve C + I + G_2 will determine Y_2 level of income which is greater than the productive capacity of the economy determined at point Y_1.. Thus excess aggregate demand over aggregate supply by the amount E_1A 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 E_2 and money income being OY^2, if the government reduces expenditure by E_2 which is equal to the inflationary gap E_1A, the aggregate demand curve C + I + G_2 will shift downward and once again the original equilibrium level of aggregate demand C + I + G_1 and Y_1 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 Y_2Y_1 is much greater than the fall in government expenditure E_2B. 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 increase

and dampen the deflationary impact of an anti-inflationary fiscal policy.

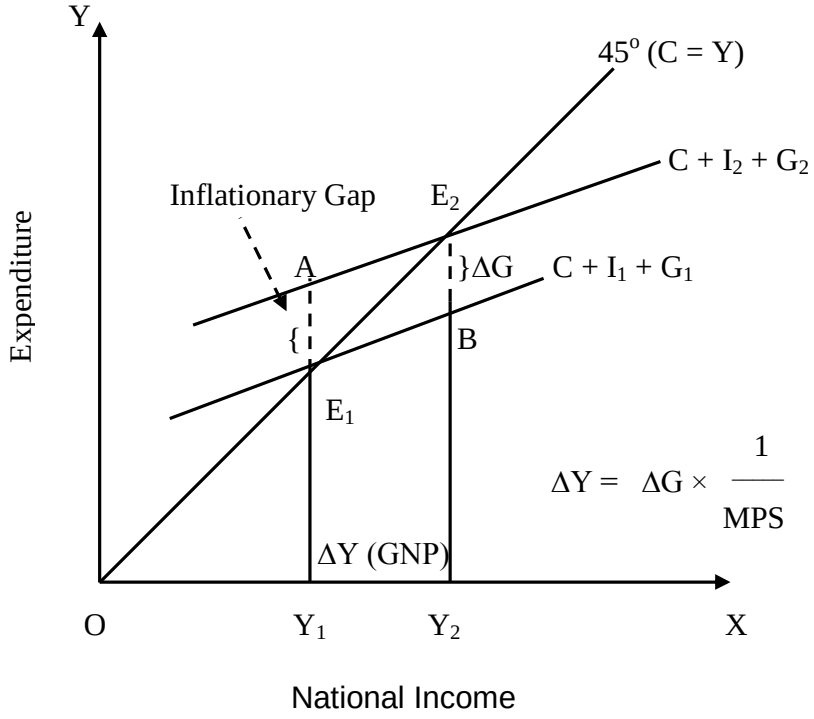


Fig. 10.3 – Anti-inflationary Impact of a Contractionary Fiscal Policy (Reduction in Government Expenditure)

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%. Between Rs.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 oriented programs 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.

10.4 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.

10.5 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.

11

IS & LM FRAMEWORK

Unit Structure :

11.0 OBJECTIVES

- To understand the meaning of IS and LM model
- To derive the IS curve in the Goods market
- To derive the LM curve in the Money market
- To understand the derivation of simultaneous equilibrium in the Goods and the Money market
- To study the impact of changes in Monetary and Fiscal policies on the rate of interest and level of income

11.1 INTEGRATED APPROACH (THE IS & LM MODEL)

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.

11.2 THE GOODS MARKET AND THE *IS* CURVE

The goods market is in equilibrium when aggregate demand is equal to national income. In a closed two sector economy, the aggregate demand is determined by consumption demand and Investment demand (AD = C + I). Changes in the interest rate affect aggregate demand through changes in investment demand. With the fall in interest rates, the profitability of investment rises because the cost of investment falls. Increase in investment demand leads to increase in aggregate demand and rise in the equilibrium level of national income. The IS curve shows the different combinations of national income and interest rates at which the goods market is in equilibrium. The derivation of the IS curve is depicted in Figure 11.1 below.

In panel (A) of Fig. 11.1 you will notice that the relationship between planned investment and rate of interest is depicted. It will be obvious from the figure that planned investment is inversely related to the rate of interest. When the interest rate falls, planned investment rises, leading to an upward shift in the aggregate demand function. The shift in the aggregate demand function is depicted in panel (B) of the figure, where in, you will see that an upward shift caused in the aggregate demand function leads to a higher level of national income in the goods market. Thus in the goods market, the level of national income is inter-connected with the interest rate through planned investment. The IS curve is the locus of various combinations of interest rates and the levels of national income at which the goods market is in equilibrium.

In panel (C) of Fig. 11.1, the IS curve is depicted. It shows that the changes in the level of national income are a function of changes in the level of aggregate demand, planned investment and rate of interest. At the given rate of interest r_0, the level of national income Y_0 is plotted. When the interest rate falls to r_1, planned investment increases to I_1 and the aggregate demand function shifts from AD_0 to AD_1 and the goods market assumes equilibrium at Y_1 level of national income. We therefore plot Y_1 level of national income corresponding to r_1 level of interest rate. Similarly when the interest rate further falls to r_2, planned investment increases to I_2 and the aggregate demand curve shifts upward to AD_2. Now the goods market assumes equilibrium at Y_2 level of national income. In panel (C), the equilibrium national income Y_2 is shown against the rate of interest r_2. By repeating this process for all possible interest rates, we can trace a series of combinations of interest rates and income levels corresponding to goods market equilibrium. By joining points such as E_0, E_1, E_2 etc. in panel (C) of the diagram, we obtain the IS curve. You will notice that the IS curve so obtained is downward sloping indicating that when the rate of interest falls, the equilibrium national income rises.

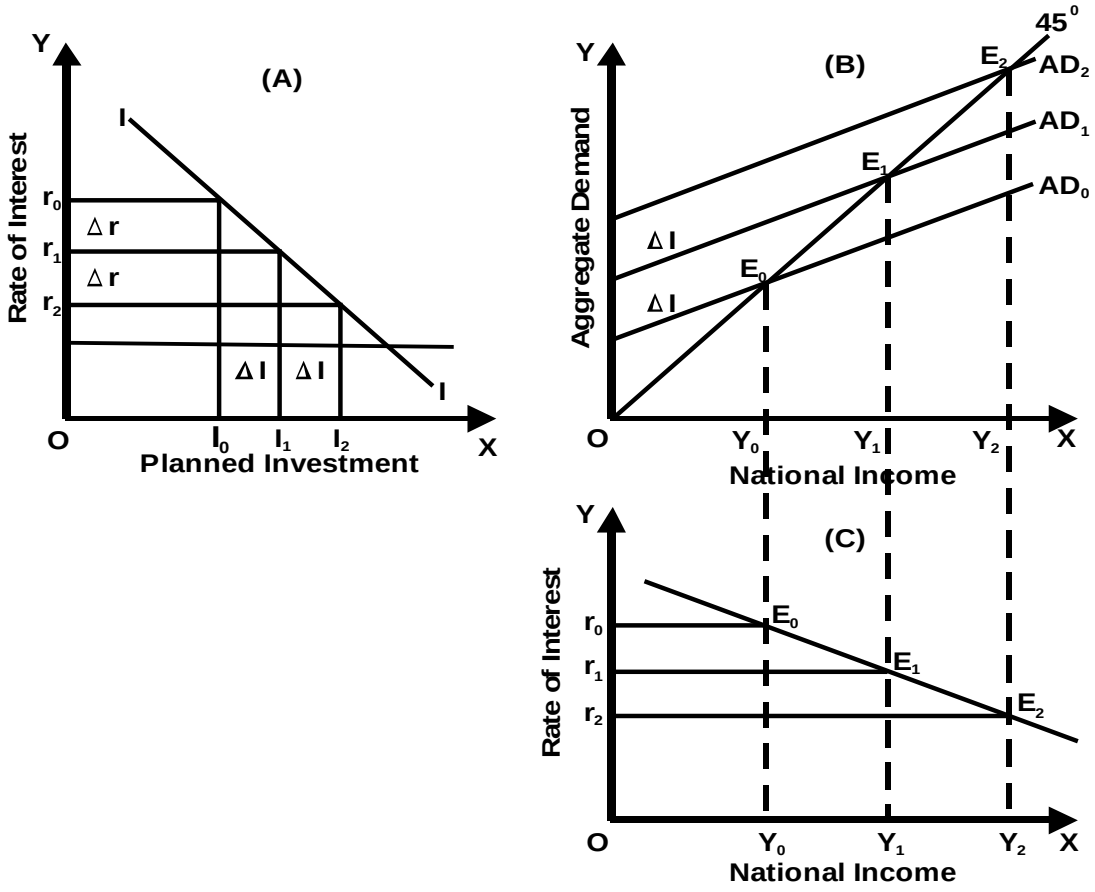


Fig. 11.1: Derivation of the IS Curve

THE SLOPE OF *IS* CURVE

The IS curve has a negative slope indicating an inverse relationship between the rate of interest and the level of aggregate demand. A higher interest rate will lower the level of planned investment and hence lower the level of aggregate demand and the equilibrium level of national income. Similarly, a lower interest rate will raise the level of planned investment and hence higher will be the level of aggregate demand and the equilibrium level of national income.

The steepness of the IS curve is determined by the elasticity of investment demand curve and the size of the investment multiplier. The elasticity of investment demand shows the degree of responsiveness of investment expenditure to the changes in the rate of interest. If the investment demand is relatively elastic, a given fall in the rate of interest will result in a more than proportionate change in investment demand bringing about a larger shift in the aggregate demand curve and larger level of national income, thus making the IS curve flatter. Conversely, if the investment demand is relatively inelastic, the IS curve will be relatively steep. The steepness of the IS curve is also determined by the size of the investment multiplier. The value of the multiplier is determined by the size of the marginal propensity to consume. Greater the mpc, greater will be the size of the investment multiplier and greater will be the level of national income as a result of increase in investment. Thus making the IS curve flatter. Conversely, if the mpc is lower, the IS curve will have a steeper slope.

SHIFTS IN THE *IS* CURVE

Changes in autonomous expenditure causes a shift in the IS curve. Autonomous expenditure is independent of the level of income and the rate of interest. Autonomous expenditure may increase on account of increase in government expenditure, increase in autonomous consumption expenditure or increase in autonomous investment demand. Autonomous investment demand may rise due to increase in firm's optimism about future profits. Autonomous consumption demand may rise due to households' estimate of future incomes. Government expenditure has an autonomous component given the wide-scale use of deficit financing. An increase in autonomous expenditure at a given interest rate would shift the aggregate demand curve upwards leading to an increase in the equilibrium level of national income. With interest rate remaining constant, an upward shift in the aggregate demand curve will cause the IS curve to shift towards the right indicating increase in national income at the given interest rate.

In figure 11.2 below, the shift in the IS curve is depicted by introducing the third component of the aggregate demand namely government expenditure and it is denoted by 'G'.

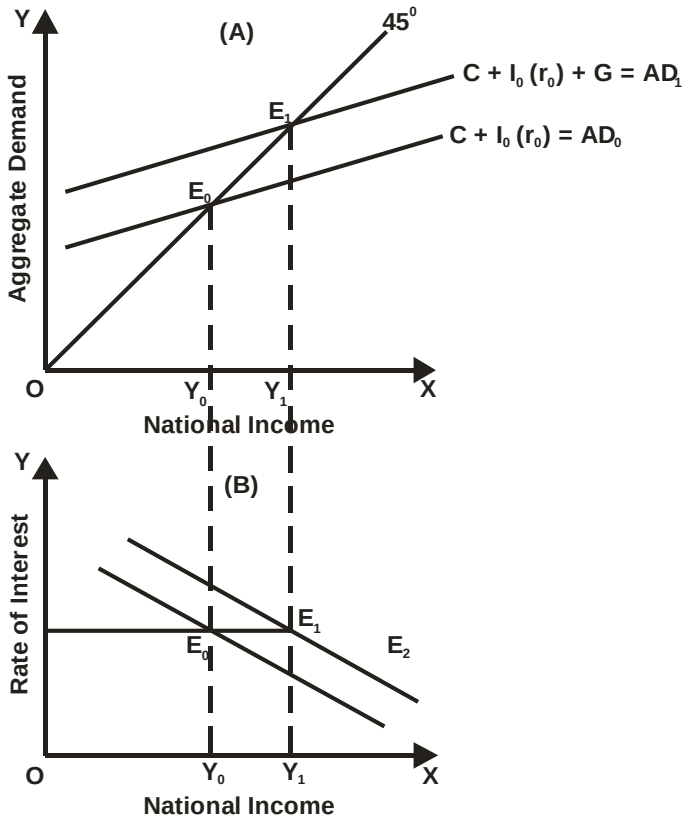


Fig. 11.2: Shift in the IS Curve on account of Increase in Autonomous Expenditure

You will notice from the figure 11.2 that when the rate of interest is r_0, the planned investment is I_0 and the Aggregate Demand Curve is AD which intersects the 45° line at point E_0 and Y_0 level of national income is determined. It is also depicted in panel (B) of the diagram by point E_0. Let us now introduce the government component in the composition of the aggregate demand and assume that the entire component is autonomous in nature. Government expenditure 'G' will shift the aggregate demand curve to AD_1 which intersects the 45° line at point E_1 and a higher level of national income Y_1 is determined. Correspondingly, we obtain point E_1 on panel (B) of the diagram as the new equilibrium point and accordingly Y_1 level of national income is plotted. The change in the level of national income from Y_0 to Y_1 is not on account of any change in the interest rate and hence the IS curve shifts to the right. The new equilibrium point E_1 is horizontally contiguous and to the right of point E_0 indicating a shift in the IS curve.

The movement along the IS curve indicates shifts in equilibrium income caused by shifts in the aggregate demand curve as a result of changes in interest rates. A shift in the aggregate demand curve caused by any other factor other than interest rate must be represented by a shift in the IS curve.

11.3 THE MONEY MARKET AND THE *LM* CURVE

The LM curve shows the different combinations of interest rates and incomes corresponding to equilibrium in the money market. According to Keynes, liquidity preference is the sum of transaction and speculative demand for money. The transaction demand for money is directly related to the level of income and the speculative demand for money is inversely related to the rate of interest. The total money demand function can be stated as: M_d = L(Yr), where 'M_d' stands for demand for money, 'Y' for real income and 'r' for rate of interest. The LM curve can be obtained by drawing a series of money demand curves at various levels of income intersecting the supply curve of money as determined by the monetary authorities. The LM curve so obtained shows various interest rates given the demand for and supply of money at different levels of income. The derivation of the LM curve is depicted in Fig. 11.3 below.

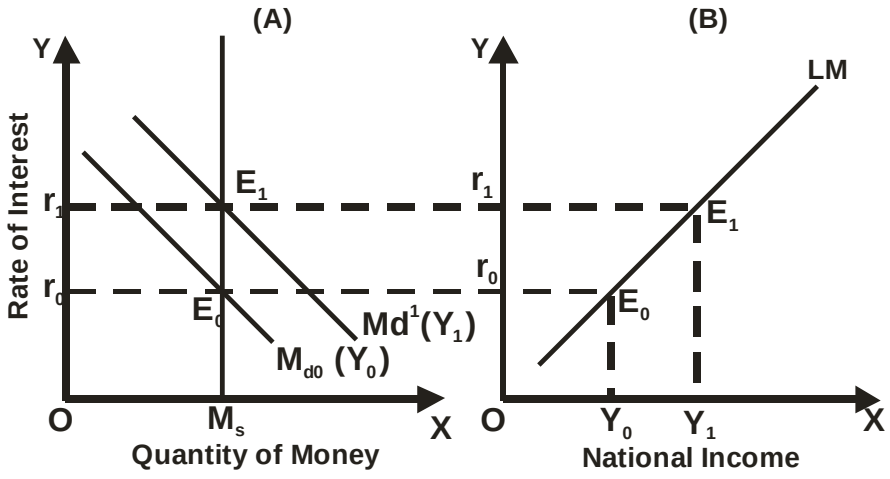


Fig. 11.3: Derivation of the LM Curve

In Fig. 11.3 above, panel (A) shows various money market equilibrium points at different levels of income and panel (B) depicts the derivation of the LM curve showing the different combinations of interest rates and income corresponding to money market equilibrium. In panel (A), the M_s curve indicates the supply of money as fixed by the monetary authorities. For the given income level Y_0, the money demand curve Md0 is drawn which intersects the supply curve at point E_0. Point E_0 indicates the initial money

market equilibrium. It shows that when the money demand is Md0, the interest rate is r_0.

In panel (B) of the figure, the corresponding point E_0 is shown. At point E_0, the money market is in equilibrium with the combination of income level Y_0 and interest rate r_0. At the higher income level Y_1, the demand for money will be higher at each interest rate. The new money demand curve Md^1 at interest rate r_1, intersects the supply curve at point E_1. Point E_1 is the new money market equilibrium. At a higher income level, the quantity of money demanded rises but higher interest rates reduces the quantity of money demanded to the original level. In panel (B), point E_1 is plotted showing the new money market equilibrium with interest rate r_1 and income level Y_1. By considering all possible income levels and by plotting the money demand curves at each income level and by plotting the corresponding equilibrium points in panel (B), the LM curve is derived.

THE SLOPE OF THE *LM* CURVE

The LM curve is upward sloping. At higher income levels, it requires higher interest rates to maintain the money market equilibrium with constant money supply. If the quantity demanded of money is proportionately greater than the change in the income level, the interest rate will be higher and steeper will be the slope of the LM curve. Further, if the quantity demanded of money is less responsive to the rise in interest rates, greater will be the rise in interest rate to maintain the money market equilibrium and steeper will be the LM curve. Conversely, the more the quantity of money demanded responds to interest rates and the less it responds to income, the flatter will be the LM curve.

SHIFTS IN THE *LM* CURVE

Given the money demand function, an increase in money supply will lead to fall in interest rate at the given level of income. With fixed income level the rate of interest must fall with a rise in money supply in order to maintain the money market equilibrium. The fall in interest rate will shift the LM curve to the right indicating a rise in the money demand function. This is depicted in Fig. 11.4 below.

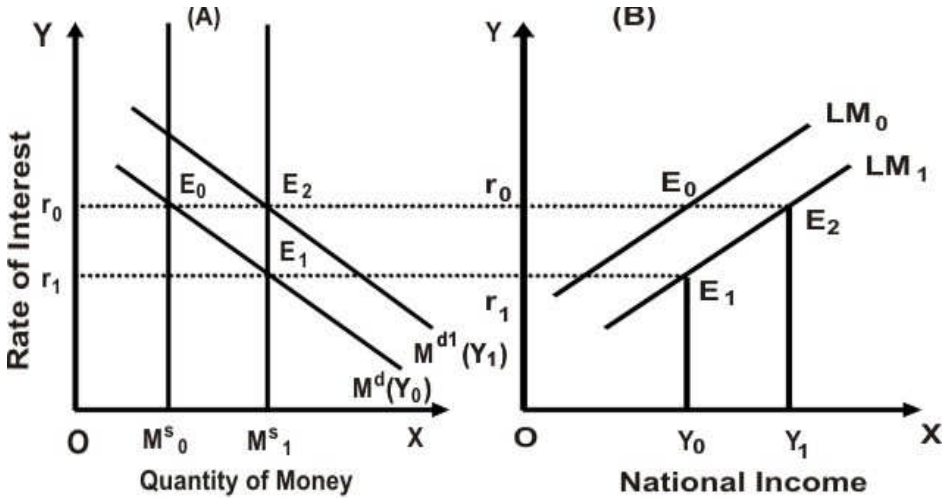


Fig. 11.4: Shift in the LM Curve on account of Increase in Money Supply

You will notice in panel (A) of fig. 11.4 that with the initial money supply M^s_0 at Y_0 level of income, the money market is in equilibrium at the interest rate r_0. When the money supply increases to M^s_1 at r_0 interest rate, there is excess money supply at the given income level Y_0. In order to maintain the money market equilibrium, the interest rate must fall to r_1 if the people are induced to demand more money at the income level Y_0 and the new money supply M^s_1. The new interest income combination (r_1, Y_0) will be on LM_1 as shown in panel (B). Similarly, with the increase in money supply from M^s_0 to M^s_1 and with the given interest rate r_0, the income must increase to Y_1 so that more money is demanded corresponding to the new money supply M^s_1. You will notice in panel (A) that with the increase in money supply at the given interest rate r_0, the income increases and raises the money demand curve to $Md^1(Y_1)$ and the money market is in equilibrium at point 'E_2' with r_0 as the interest rate and Y_1 as the income level. The new interest-income combination (r_0, Y_1) is plotted on the LM_1 curve in panel (B). Thus increase in money supply will shift the LM curve to the right and if the money supply is reduced, it will raise the interest rate at the given level of income and cause the LM curve to shift to the left.

11.4 EQUILIBRIUM IN THE GOODS AND MONEY MARKETS

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. 11.5 below.

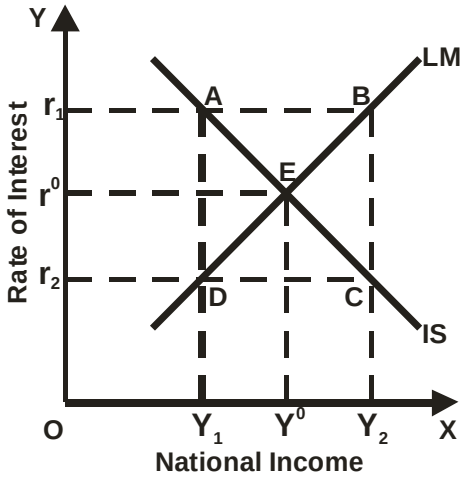


Fig. 11.5: Simultaneous Equilibrium in the Goods and Money Market

The simultaneous equilibrium in both the markets is determined at point E, whereby r_0 is the interest rate determined and Y_0 is the level of national income. At interest rate r_1 and income level Y_1, the goods market will be in equilibrium at point 'A' on the IS curve. But at the interest rate r_1, the money market will be in equilibrium only at income level Y_2 at point 'B' on the LM curve. At interest rate r_1, the income level Y_1 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 r_0 level. At r_0 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 r_2 interest level, the income level Y_2 required for goods market equilibrium at point 'C' is greater than the income level Y_1 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 r_0 with Y_0 income level where both markets are in equilibrium.

11.5 FISCALAND MONETARY POLICIES AND THE *IS-LM* MODEL

The IS-LM model helps us to explain as to how changes in monetary policy initiated by the Central Bank of a country and changes in fiscal policy initiated by the Government of a country influences the rate of interest and the level of national income in a country.

FISCAL POLICY AND IS-LM MODEL

Changes in fiscal policy can be explained in terms of changes in government expenditure and changes in taxes imposed by the Government. We will first look at the impact of increase in government expenditure on the rate of interest and the level of national income. This is shown in Fig. 11.6 below. Autonomous increase in government expenditure raises aggregate demand for goods and services produced in an economy and pushes the IS curve to the right in the upward direction. You will notice that autonomous increase in government expenditure shifts the IS curve from IS_1 to IS_2. Here, the horizontal distance between the two IS curves is equal to $\Delta G \times \frac{1}{MPS}$ which shows the increase in income that takes place according to the Keynesian multiplier. You may notice that with the LM curve remaining constant, the IS_2 curve intersects the LM curve at point F. The IS-LM model therefore explains us that with the increase in autonomous government expenditure (ΔG), the equilibrium shifts from point E to point F and the rate of interest rises from R_1 to R_2 and the level of national income increases from Y_1 to Y_2. The IS-LM model therefore explains us that increase in autonomous government expenditure or expansionary fiscal policy helps to increase both the level of national income and the rate of interest.

An interesting point that IS-LM model brings to light is the difference in the increase in national income as given by the Keynesian multiplier and the one given by this model. The increase in national income by Y_1Y_2 is less than what would happen given the Keynesian multiplier. Keynes assumed that investment is fixed and autonomous and brought out his concept of investment multiplier to explain changes in national income as a result of changes in investment expenditure. However, the IS-LM model takes into consideration the fall in private investment due to the rise in interest rate that takes place with the increase in government expenditure. The extent of fall in private investment expenditure as a result of rise in interest rates is termed as Crowding Out effect. Similarly, a fall in government expenditure will bring about the leftward shift in the IS curve and with the LM curve remaining constant, the rate of interest will fall along with a fall in the level of national income. Reduction in government expenditure to control inflation is an example of Anti-inflationary or Contractionary fiscal policy.

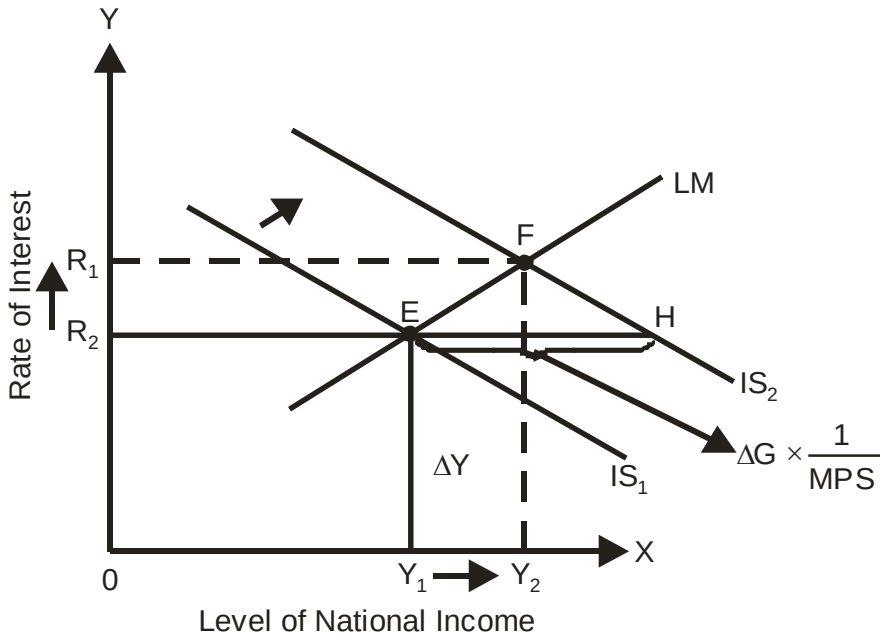


Fig. 11.6: Impact of increase in Government Expenditure on Interest Rate and National Income

Now, we will see what would be the impact of reduction in taxes on the rate of interest and the level of national income in the economy. Reduction in taxes is an alternative to increase in government expenditure. Tax reduction increases the disposable income of the people leading to increase in consumption expenditure and thereby increase in aggregate demand. When the government reduces taxes, the IS curve shifts to the right as shown in Fig. 11.7 below from IS_1 to IS_2. Once again, you will notice that the change in national income as result of reduction in taxes is only Y_1Y_2 which is less than what the Keynesian tax multiplier $\Delta T \times \frac{MPC}{MPS}$ would make us available. You may notice that the effective increase in national income as a result of the tax multiplier is equal to EH. Whereas, the IS-LM model shows that the increase in national income is much less than what the Keynesian tax multiplier would generate as the LM curve remains constant and the new IS curve IS_2 intersects the LM curve at point D. According to the new equilibrium point D, the new rate of interest is R_2 and the rise in national income is Y_1Y_2. Similarly, if the government wants to control inflationary pressures in the economy, it may initiate a raise in taxes. When the taxes are increased, the disposable incomes of the people would fall leading to a fall in consumption expenditure. Fall in consumption expenditure will help in controlling price rise.

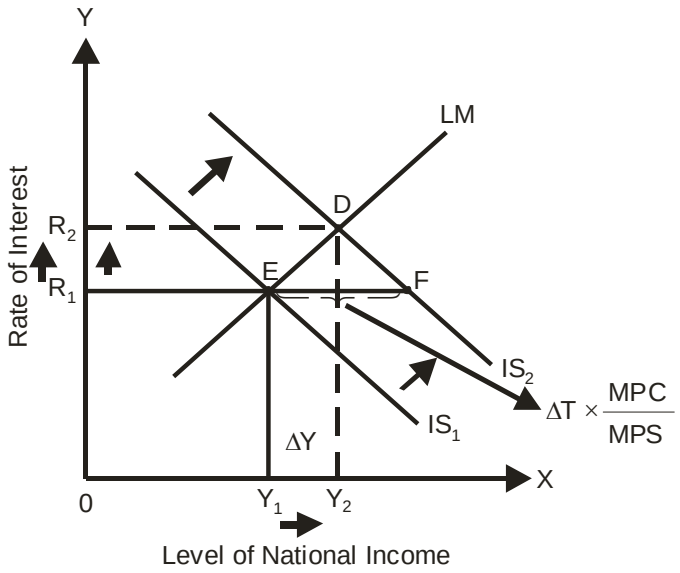


Fig. 11.7: Impact of Reduction in Taxes on Interest Rate and National Income

MONETARY POLICY AND THE *IS-LM* MODEL

The monetary policy of the government is determined and executed by the Central Bank of the country. Changes in the monetary policy can bring about changes in the rate of interest and the level of national income. Like fiscal policy, the monetary policy can be expansionary or contractionary. In order to increase the availability of credit and push economic growth rate to a higher level, the Central Bank may follow an expansionary monetary policy. However, in times of rising prices, the Central Bank may follow a contractionary or tight monetary policy to control the rising prices. The IS-LM model can be used to show the impact of both expansionary and contractionary monetary policies on the rate of interest and the level of national income. Changes in money supply will cause a shift in the LM curve. While increase in money supply will shift the LM curve to the right, the opposite will happen when money supply is reduced. Assuming that the economy is in a state of recession i.e., when the growth rate in the national income is regularly falling, the Central Bank would follow an expansionary monetary policy to draw the economy out of recession. The Central Bank would follow steps that would increase money supply in the economy. Increase in money supply, with demand for money remaining constant would create a downward pressure on the rate of interest and the rate of interest would fall. When the interest rate falls, investment demand will rise leading to an increase in national income in the economy. Thus, with the increase in money supply, the LM curve will shift towards the right and intersect the constant IS curve at point D as shown in Fig. 10.8 below. You will notice that the economy moves from the initial equilibrium point E to D, the rate of interest falls from R_1 to R_2 and the level of national income

increases from and the level of national income increases from Y_1 to Y_2. The IS-LM model therefore shows that expansion in money supply lowers the rate of interest and increases national income. Similarly, if the economy is caught in an inflationary spiral, the Central Bank may follow a tight monetary policy that is it would reduce money supply and bring about a rise in the rate of interest and fall in the level of national income. Less income will reduce the aggregate demand in the economy and reduce the pressure on rising prices thereby controlling the inflation rate.

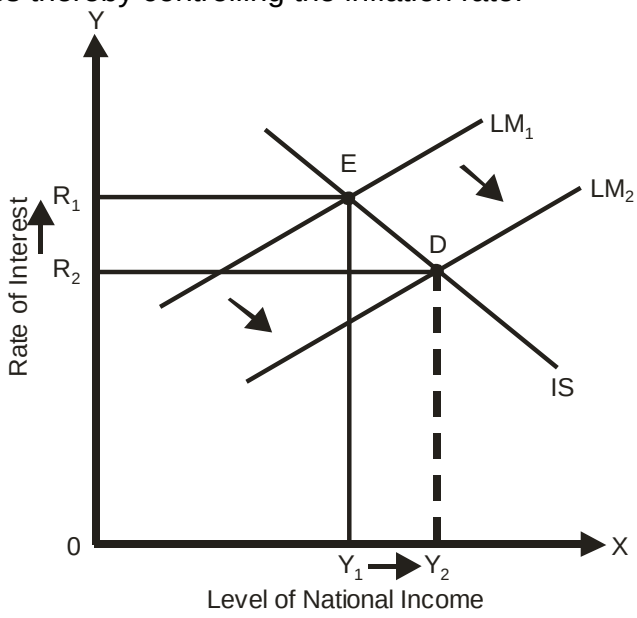


Fig. 11.8: Impact of Expansionary Monetary Policy on Interest Rate and National Income

11.6 SUMMARY

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.

2. The IS curve shows the different combinations of national income and interest rates at which the goods market is in equilibrium. The IS curve has a negative slope indicating an inverse relationship between the rate of interest and the level of aggregate demand.

3. The LM curve shows the different combinations of interest rates and incomes corresponding to equilibrium in the money market. The LM curve is upward sloping. At higher income levels, it requires higher interest rates to maintain the money market equilibrium with constant money supply.

4. 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.

5. The IS-LM model helps us to explain as to how changes in monetary policy initiated by the Central Bank of a country and changes in fiscal policy initiated by the Government of a country influences the rate of interest and the level of national income in a country.

6. The IS-LM model can be used to show the impact of both expansionary and contractionary monetary policies on the rate of interest and the level of national income.

11.7 QUESTIONS

1. What is an IS curve? Explain the derivation of the IS curve.
2. What is a LM curve? Explain the derivation of the LM curve.
3. Explain how simultaneous equilibrium in the goods market and the money market is determined.
4. What determines the slope of the IS curve?
5. Explain how increase in the level of autonomous expenditure leads to a shift in the IS curve?
6. What determines the slope of the LM curve?
7. Explain how increase in money supply leads to a shift in the LM curve?
8. Explain the impact of fiscal policy on the rate of interest and level of income.
9. Compare the impact of increase in government expenditure and reduction in taxes on the rate of interest and national income.
10. Examine the impact of monetary policy on the rate of interest and national income.

12

Module 4

BASIC ISSUES IN ECONOMIC DEVELOPMENT

Unit Structure :

12.0 OBJECTIVES

- Understand the rationale and key elements of New Economic Policy, 1991.
- Understand the trends in India's national income and per capita income since 1991.
- Understand the sectoral composition of national income and changes in it since 1991.
- Understand the nature and changes in the occupational structure of India.

12.1 RATIONALE OF ECONOMIC REFORMS

The New Economic Policy (NEP) 1991 is a response to the unprecedented economic crisis that the Indian economy was forced to face during the early months of 1990. It should be borne in mind that the Indian economy was facing the same problems of huge fiscal deficits, unsustainable current account deficits and inflation problem since Independence. What made the crisis of the early 1990 was that the economy could not mobilise the resources to meet its requirements as it could do on earlier occasions. The four major causes for this are as under:

a. Political uncertainty abroad resulted in the loss of remittances due to the Gulf War. The collapse of the USSR caused the loss of political support. The domestic political uncertainty due to minority governments further added to the problem. India failed to generate external assistance to meet its requirements as it could do during the earlier occasions.

b. The government resorted to expansionary fiscal policy after 1980. Most of this expenditure was financed through fiscal deficits. The gross fiscal deficit as a percentage of GDP rose from 5.1 in 1981-82 to 7.8 in 1990-91. To finance these, the central government resorted to public borrowing. The debt of government rose from 33.3 percent of GDP to 49.7 percent in 1990-91. This meant that most of the funds were taken away be the government to finance its current expenditure undermining the efficient use of resources. The interest payments on public debt rose from 2 percent of GDP to 3.8 percent during this time. As a percentage of central government expenditure, they rose from 10 percent to 22 percent. Thus, most of the government funds were allocated to interest payments for loans that failed to generate any income. By 1990-91, interest payments accounted for 39.1 percent of the total revenue of the central government. The fiscal deficit was 3.1 times the estimated during the Sixth Plan and 2.5 times the estimated in the Seventh Plan. The fiscal situation led to the crowding-out of private investment and inefficient use of scarce funds by the government causing low growth of output.

c. The third was the unsustainable balance of payments. Due to slow growth rate of exports and increasing imports, India always had adverse trade balance since 1950. The trade deficit was financed by remittances as noted earlier. As a result, the current account deficit was within the manageable limits. Liberal external assistance was also a source of foreign exchange. Since 1980-81, India started relying on short-run external commercial borrowings to finance its current account deficits. The use of external commercial borrowings to finance these deficits is seen in the external debt rising from 12 percent of GDP to 23 percent. This resulted in external debt servicing burden. The debt servicing rose from 15 percent of export earnings in 1980-81 to 30 percent in 1990-91. Thus, exports were insufficient to meet the needs of the economy. The loss of factor income due to the Gulf War led to the current account deficit increasing from 1.35 percent of GDP in 1980-81 to 3.69 percent in 1990-91. The situation became so grave that by January 1991, and June 1991, India’s foreign exchange reserves were sufficient to cover only seven days of imports. This called for radical measures to restore international faith in Indian economy.

d. The price situation became worse during the 1980s. The annual rate of wholesale inflation during the second half of the 1980s was

about 6.7 percent. The price situation worsened by 1990-91 with the wholesale price index rising by 10.3 percent, and the consumer prices rose by 11.2 percent. The food inflation meant loss of real income for the community. High food prices dampen demand for industrial goods and also erode the savings.

The economic reforms of 1991 were based on the two principles of macroeconomic stabilisation and structural adjustment. Stabilisation deals with the control of inflationary forces that cause misallocation of resources. It refers to aggregate demand management to ensure low and stable rates of inflation with sustainable fiscal and external balances. Structural adjustment refers to improving the supply-side conditions in the economy. Thus, it can be seen that stabilisation and adjustment are complementary. We now examine each of these two concepts as attempted in India after 1991.

A. Macroeconomic Stabilisation/Stabilisation: Stabilising the macroeconomic activity calls for addressing three interrelated issues. The first of these is the control of inflation; the second is fiscal adjustment; and the third is the balance of payments adjustment. We shall now examine each of these in turn.

1. Control of Inflation: Since inflation increases the cost of production it is inimical to the long-run growth of the economy. Control of inflation calls for attention to four inter-related issues:

a. Liquidity hangover needs to be addressed by controlling the growth of broad money (M_3). In India control on money supply was through elimination of budgetary deficits.
b. Growth of Agricultural Output: Since food inflation is the main source of price rise, measures are needed to promote agricultural production.
c. Fuel Prices: India depends on imports for its energy requirements. The world fuel prices are an important source of cost-push inflation.
d. Foreign Exchange Flows: The scarcity of foreign exchange results in balance of payments constraints on the growth of the economy. However, attempts to attract foreign capital result in volatility. It is observed that often the wide fluctuations in capital flows accentuate the domestic fluctuations.

2. Fiscal Adjustment: Fiscal deficits cause excess absorption over output. Huge budget deficits cause domestic inflation as well as current account deficits. However, in a developing economy like India, public expenditure will necessarily be higher than the public revenue. Since the propensity to consume is high for public

expenditure, it is necessary to keep deficits within manageable limits. The fiscal adjustment is the most difficult part of the structural adjustment. Since the government is often seen as a source of important provider, any attempts at reducing public expenditure and/or increasing levies is seen as an attempt to rob the public. As part of the economic reforms programme, the government coined the phrase, “structural adjustment with human face”. Thus, the government proposed to reduce wasteful public expenditure without sacrificing its socio-economic objectives. A reduction in current revenue is the main cause of deficits in India. The imprudent increase in public expenditure needs to be controlled. As part of the fiscal consolidation, the government announced the Medium-Term Fiscal Policy and proposed to bring the gross fiscal deficit to 4 percent of GDP by the mid-1990s. Though the government could reduce the deficits initially, by 1998-99, the gross fiscal deficit was 6.5 percent of the GDP. The Fiscal Responsibility and Budget Management (FRBM) Act of 2004 set the targets for revenue and gross fiscal deficits.

However, the committed expenditure on salaries, and debt servicing, expenditure on defence and subsidies resulted in the failure to contain revenue expenditure. To meet the deficit targets the government has been reducing the expenditure on social sectors. This can adversely affect the social welfare in the long-run.

Another important aspect of fiscal adjustment is the failure to mobilise tax and non-tax revenue. Rationalisation of tax rates, introduction of value-added tax (VAT), services tax are some of the important measures attempted by the government. Tax revenue to GDP ratio is still very low in India when compared to other countries.

Imposition of user-charges is another means of mobilising non-tax revenue. Many of the public services like electricity, irrigation, transport and water supply, are very lowly priced and do not reflect the marginal cost of production. The failure to reduce the current expenditure and reductions in capital expenditure undermine the long-term growth of the economy.

3. Balance of Payments Adjustment: Current account deficits are essentially a result of excess imports over exports. These deficits will force the country to borrow from abroad. As more funds are diverted to meet these requirements, the country is faced with debt servicing problem. At the same time larger amortisation will leave lesser export revenues to finance the import requirements. As part of the balance of payments adjustment government took the following measures:

a. In order to stop speculation in the foreign exchange market, the Indian rupee was devalued by 18 percent in two steps on July 1 and 3 of 1991. The Cash Compensatory Scheme (CCS) was also abolished. The government introduced Exim Scrips that are freely traded in the market.

b. In 1992-93 the Liberalised Exchange Rate Management System (LERMS) was introduced. The exporters are to surrender forty percent of export revenue to the Reserve Bank at the official rate and are allowed to trade the remaining sixty percent at the market rate.

c. There was significant lowering of customs duties. The peak import duty was brought down from 300 percent in 1991 to 20 percent by 2011. The lowering of import duties reduces the cost of production and improves the efficiency of the industrial sector.

d. The government took various measures to promote exports through sensitising the producers. It provided incentives to exporters in terms of liberal access to inputs. The success of the stabilisation programme is seen in the fact that the current account deficit never caused the panic during the 1990s and 2000s as it did in the 1980s.

B. Structural Reforms: These are the measures undertaken to integrate Indian economy with the world economy and thereby reap the advantages of international division of labour. The measures in the following four areas are the structural reforms. India's structural adjustment programme was aimed at bringing about changes with least sacrifice in the welfare of the people. Therefore, the government termed it as "structural adjustment with a human face".

1. Reforms in Trade and Capital Flows: As a first step in structural adjustment, the government devalued the Indian rupee in two steps by eighteen percent on the first and third of June 1991. It also abolished the Cash Compensatory Scheme (CCS). It was followed by Liberalised Exchange Rate System (LERMS). Under this scheme, each exporter is allowed to retain part of the foreign exchange earnings and surrender the remaining part to the Reserve Bank at the official rate. This was followed by full convertibility of all current account transactions in April 1994. The government also simplified the export and import procedure. As of the present only three items of imports are subject to licensing. Between 1991-92 and 2007-08, the government reduced the peak import duty from 300 to ten percent. The other measures in trade reforms include among others, the setting-up of Export Oriented Units (EOUs) and Special Economic Zones (SEZs), Star Trading Houses, allowance for 100 percent Foreign Direct Investment (FDI) in

export-related industries, simplification of the Export Promotion Capital Goods (EPCG) Scheme, and provision of advanced licenses for import of inputs. The government has set-up of Foreign Investment Promotion Board (FIPB) to ensure speedy clearance of investment proposals by foreign companies.

2. Industrial Deregulation: Many studies have pointed out that bureaucratic control and industrial licensing policies have discouraged industrial sector in our country. As part of structural adjustment, government scrapped the Monopolies and Restrictive Trade Practices (MRTP) Act. It also removed the phased manufacturing programme to allow greater flexibility in industrial production. To infuse competition and efficiency in industrial sector, the public sector reservations were reduced from seventeen to three. Industrial licensing is now removed for all but five products.

3. Public Sector Reforms and Disinvestment: When the Second Five Year Plan was launched in 1956; the public sector was given importance. However, over the years, it failed to deliver both in terms of output and quality. It was plagued with losses which proved to be a drain on the economy. To promote efficiency and accountability, government started granting greater managerial autonomy to these units. In case of some of the units is opted for selling them to the private sector. This is disinvestment policy designed to transfer the management of the public sector units and thereby ensure greater efficiency. However, it is generally believed that public sector disinvestment programme is not properly planned and government is considering it only as a source of revenue to finance fiscal deficits than to promote efficiency.

4. Financial Sector Reforms: An efficient financial system is essential for the proper use of scarce resources. In order to promote efficiency and competitiveness of the financial system the government appointed the Committee on Financial Sector Reforms (1991) and the Committee on Banking Sector Reforms (1998) under the chairmanship of N. Narasimham, the former Governor of the Reserve Bank of India. The recommendations of these two committees resulted in the lowering of Statutory Liquidity Ratio (SLR) to 24 percent and the Cash Reserve Ratio (CRR) from 12.5 percent in 1991 to 4 percent by February 2013. This has resulted in infusion of liquidity into the system and lowering the preemption of funds by the government at the cost of the rest of the economy. The committee also recommended the introduction of Capital Adequacy Norms to reduce the risk of default in the banking system. As a result, the Reserve Bank adopted the Basel II norms on Capital to Risk-weighted Asset Ratio (CRAR). Further, the branch licensing was abolished and

the commercial banks were allowed to open new branches without any restrictions. Since the interest rate should reflect the cost and availability of funds, the Reserve Bank deregulated the deposit and lending rates and commercial banks are given the freedom to determine their own interest rates. Further, the Board for Financial Supervision is set-up to ensure the smooth control of the banking system. The government also introduced the system of budgetary support for re-capitalisation of the weak banks with the objective of lowering the non-performing assets (NPAs). All these measures have ensured promotion of efficiency in the Indian banking system.

Criticism:

As a result of the economic reforms, India emerged as the second fastest growing economy of the world after China. However, it should be noted that all is not well with the economic reforms. Some of the areas of concern still remain and needs to be addressed for the long-run well being of the economy. We shall now examine some of them.

1. Economic reforms in India resulted in the neglect of agricultural sector. With emphasis on the participation of the private sector, the government reduced the real public sector investment in irrigation and other activities. As a result, there is widespread agrarian distress.

2. Economic reforms failed to ensure equity. India's human development levels are one of the lowest in the world. This is a direct challenge to the making of economic policy. Unless the equity aspect of growth is addressed properly and adequately, the long-run sustainability of economic growth is questionable.

3. Reliance on private sector to promote growth is understood as government opting out of economic welfare. As a result, there are acute shortages of important public goods and opposition to the industrial policies that cause exploitation of men and nature.

4. The fiscal policy failed to bring about the necessary changes in terms of expenditure. The reductions in social sector spending both by the central and state governments resulted in increase in deprivation levels and worsening of living conditions.

5. The opening-up of the economy resulted in greater vulnerability of the economy to the external factors. As seen during the Great Recession of 2009-12, Indian economy is now more fragile than it was before.

Check your Progress :

1. Fiscal Deficits cause crowding out of private investment.
2. Balance of payments crisis are due to excess debt.
3. Inflation is caused by deficits.
4. Macroeconomic stabilisation needs control of inflation.
5. What are the main objectives of structural reforms?
6. Bring out the major reforms in the trade sector.
7. How is industrial deregulation achieved?
8. What are the major reforms in the industrial sector?
9. What are the major reforms in financial sector?

12.2 TRENDS IN INDIA'S NATIONAL INCOME SINCE 1991

Indian economy witnessed rapid growth after the introduction of economic reforms in 1991. Between 1991-92 and 2012-13, its net national product (NNP) increased from ` 12,02,305 crore to ` 50,74,981 crore in 2012-13 (at 2004-05 prices). This is impressive in comparison to the growth performance in the earlier period of planned development. However, this performance is much below the expectations since except in the Eighth Five Year Plan, the growth rate has been below the target. Table 1.1 gives the target and actual growth rates during the period since 1991-92.

Table 12.1: Targeted and Actual Growth Rates in National Income since 1992 (percentage):

Growth Rate	Eighth Plan (1992-97)	Ninth Plan (1997-2002)	Tenth Plan (2002-2007)	Eleventh Plan (2007-2012)	Twelfth Plan (2012-2017)
Target Rate	5.6	6.5	8.0	9.0	8.0
Actual Rate	6.7	5.5	7.5	7.8	

Source: Government of India: Economic Survey (various issues).

Thus, it can be seen that only in the Eighth Plan, the country could achieve the growth rate that was targeted in the Five Year Plans. Following are some of the factors the explain India's growth performance since 1991.

During the Eighth Plan, the monsoon was favaourable and this led to rapid growth in agricultural production. This also ensured lesser inflationary pressures on the economy. The capital flows were also significant with stability in the flows.

During the Ninth Plan period monsoon failure triggered decline in the growth of agriculture and manufacturing. Sanctions imposed on India after the Pokhran test was a main cause of decline in exports and technology deprivation. Kargil War and Bhuj earthquake resulted in decline in production and diversion of resources.

In the Tenth Plan period, though the manufacturing sector recovered, and economy witnessed the highest growth during 2003-07, the overall growth rate was below the target due to the low growth in the first year of the Plan. India, during this period emerged as the second fastest growing economy in the world. External factors were favaourable with robust export growth. The services sector also posted robust growth at 8 percent per annum contributing the overall growth of the economy.

During the Eleventh Plan, the growth rate declined due to the global recession. Unlike in the earlier period, India was now more integrated with the world economy and the adverse consequences were visible in the form of lower exports, volatile capital flows and domestic pressures.

During the early years of the Twelfth Plan, India was still fighting the adverse consequences of the downturn. Delayed monsoon added to this and the economy witnessed lesser growth in these years.

Following are the main features of the growth of India's national income since 1992:

a. The growth rate is erratic. The economy witnessed periods of high growth rate followed by decline. It is also observed that there is considerable overestimation in the income from manufacturing and service sector.

b. Agriculture continues to be the main drag on the economy. More significantly, agriculture in India is still governed by weather conditions. It is argued by T.N. Srinivasan and others that the

decline in the real public investment in agriculture is the main cause of India's economic problems in the post-reform period.

c. The growth rate is modest and is confined to a few sectors like services and durable consumer goods. Fragility in the demand for the later is considered to be the cause of recessions.

d. Most of the growth is confined to a few states like Gujarat, Tamil Nadu, National Capital Region and Haryana. In all other states, the industrial growth is insignificant.

During the post-reform period, India witnessed significant increase in its per capita income. This is due the decline in the population growth and the increase in national income. The per capita NNP at constant prices (2004-05) rose from `14,157 in 1991-92 to `39,168 in 2012-13. This translates into an average growth rate of 4.8 percent per annum. There is also a considerable decrease in the population growth after 1991. During 1991-2011, the population growth rate was just around 1.9 percent. This increase in per capita income has considerably reduced the incidence of poverty.

Check your Progress :

1. India's growth rate after 1991 is not satisfactory.
2. Per capita income growth rate is due to both an increase in national income and a fall in the population growth rate.

12.3 CHANGES IN THE SECTORAL COMPOSITION OF NATIONAL INCOME

According to Kuznets, the share of different sectors in the national income is an important measure of the level of development of that economy. Advanced capitalist economies have their agricultural sector accounting for a little around two percent while in the developing countries the share of agriculture is very large. Since agricultural sector cannot grow at more than four percent a year, the higher share of agriculture translates into lesser growth rate of national income. In India, there are important

structural changes that can be observed when one examines the changing share of agriculture. After the introduction of economic reforms in 1991, the share of agricultural sector declined considerably. Table 12.2 shows the trends in the share of different sectors in national income since 1991.

Table 12.2: Sectoral Composition of National Income 1992-2013 (Percentage):

Sector	1992-97	1997-2002	2002-2007	2007-2012	2012-13
Agriculture and Allied Activities	24.2	20.5	16.5	13.2	11.9
Industry	21.9	21.5	21.0	20.7	19.3
Service Sector	53.9	58.1	62.5	66.1	68.8

Source: Government of India: Economic Survey (various issues).

From the above table, we can see that the share of agricultural sector is declining continuously since 1992. However, it should be remembered that the agricultural sector is still an important determinant of income and fluctuations in agricultural production cause both recessionary and inflationary pressures in the economy. Most of the recent inflation is basically due to the increase in food prices. Thu, it is reasonable to conclude that though the share of agricultural sector reduced, it is still a dominant sector in Indian economy.

The share of industrial sector has remained more or less stable. This is surprising since the growth of industrial sector is a key element in the economic development of an economy. The stable share of industrial sector also indicates the fragility of the system.

Service sector is the most dominant contributor to national income since 1991. The vast pool of technically trained man power is considered to be the main cause of this dominance of service sector in India.

Thus, since 1991, though there are major changes in the composition of national income, the economy continues to be led by the growth of the service sector.

12.4 CHANGES IN THE OCCUPATIONAL STRUCTURE OF INDIAN ECONOMY

The occupational structure refers to the share of each sector in the total employment. If the labour force is productively employed the economy will enjoy higher levels of income and output. Since 1991, there are major changes in the occupational structure. Table 12.3 shows the occupational structure in India during 1991 and 2011-12.

From the table it can be seen that the economy has not seen any major change in its employment situation. The share of primary sector has been falling. Most importantly, first time since 1951, the absolute number of cultivators declined after 2009-10. This is the result of agrarian distress the emerged with the introduction of New Economic Policy in 1991.

The Industrial sector failed to provide adequate employment opportunities. There is clear evidence of “jobless growth” in the secondary sector. The trend in manufacturing sector clearly hints at this. Fluctuations in manufacturing sector employment are driven by external factors. The share of electricity, gas and water supply remained stable at 0.3 percent throughout the post-reform period. Only construction sector experienced sustained increase in the employment.

The steady growth in service sector employment is indicative of the potential for future employment generation. The share of public administration and defence in employment is declining, indicating the withdrawal of government from economic activity due to liberalisation. The share of banking and insurance in employment remained stable, indicating that this sector is technology-driven. Finance and other business services also show a strong positive trend in their employment.

Thus, the changing occupational structure of Indian economy is consistent with the changes in the sectoral composition of it national income.

Table 12.3: Occupational Structure in India 1991-2011/12:

Sector	1991	2001	2004/5	2009/10	2011/12
I. Agriculture and Allied Activities	66.8	56.7	58.5	53.2	48.9
II. Industry	12.7	18.2	18.2	26.5	24.3
a. Manufacturing	10.2	13.9	11.7	11.0	12.6
b. Construction	1.9	4.4	5.6	9.6	10.6
III. Services	20.5	25.1	23.3	25.3	26.9
a. Trade and Commerce	7.5	9.4	9.0	9.5	9.3
b. Transport, Storage and Communications	2.8	4.0	3.8	4.3	4.8
c. Other Services	10.2	11.7	10.5	11.5	12.8
Total (I+II+III)	100	100	100	100	100

Source: Government of India: Economic Survey (various issues).

Check your Progress :

1. Share of agricultural sector is falling in India's national income.
2. Changes in occupational structure are consistent with the changes in the composition of national income.

12.5 SUMMARY

1. The New Economic Policy (NEP) 1991 is a response to the unprecedented economic crisis that the Indian economy was forced to face during the early months of 1990. The economic reforms of 1991 were based on the two principles of macroeconomic stabilisation and structural adjustment.

2. During the post-reform period, India witnessed significant increase in its per capita income. This is due the decline in the population growth and the increase in national income.

3. Since 1991, though there are major changes in the composition of national income, the economy continues to be led by the growth of the service sector.

4. The changing occupational structure of Indian economy is consistent with the changes in the sectoral composition of it national income.

12.6 QUESTIONS

1. Explain the rationale of New Economic Policy 1991.
2. What are the main features of New Economic Policy?
3. Bring out the main features of the macroeconomic stabilisation policy introduced in 1991.
4. What are the measures of structural adjustment adopted in India after 1991.
5. Bring out the main trends in India's national income since 1991.
6. Examine the trends in the sectoral composition of India's national income since 1991.
7. What are the main trends in the occupational structure in India since 1991?

13

INCLUSIVE GROWTH AND HUMAN DEVELOPMENT IN INDIA

Unit Structure

13.0 OBJECTIVES

- Understand the significance of Inclusive Growth and measures to promote it.
- Understand the concept of human development and measures to promote human development in India.
- Understand the concept of different types of employment.
- Understand the concepts, and causes of unemployment in India.
- Understand the main employment policies of Government of India.

13.1 INCLUSIVE GROWTH

For long, Indian policy-makers believed in the theory of 'trickle down'. That is if the national income grows at a high rate, this will percolate to the poorer sections of the economy and their standards of living will also increase. It was realised that the benefits of economic growth did not reach the deprived sections of the economy like the Scheduled Castes (SCs), Scheduled Tribes (STs), minorities and women. Gender inequality continues despite the various legal provisions to protect the interests of the women. It is important to know that 'inclusive growth' concept is based on the

understanding that both economic and non-economic factors play an important role in determining the outcomes on these sections. Religious, caste and gender discrimination excludes large sections of the people from participating in the economic activities and denies them the benefits of the overall growth of the economy.

It is realized that the high growth rate in the GDP since the introduction of economic reforms in 1991 could not ensure justice and more importantly, on many macroeconomic indicators, India's performance slipped in terms of its own historical record and in comparison to other developing countries. Faster economic growth after 1991 also witnessed a slowdown in the rate of poverty eradication, low growth rate of employment, increase in the rural-urban and regional disparities. There is a significant increase in agricultural indebtedness, forcing farmers in many regions of the country to take recourse to suicides. Malnutrition increased. It is observed that while in 1998, 48 percent of children were suffering from malnutrition, in 2005-06, 46 percent of children were under-nourished. Fifty percent of world population facing hunger live in India. It is found that 35 crore of Indians consume less than 80 percent of the minimum energy required. Employment elasticity of output declined from 0.26 in 1991-92 to 0.16 in 2004-05. This led to the realisation that faster growth is in itself not a guarantee for improvements in employment opportunities and thus, the spectre of unemployment is real. Since high levels of unemployment cause increase in the average standards of living, it is necessary to generate adequate job opportunities to make proper use of the available human resources.

The benefits of economic growth of the nineties were confined only to the urban, educated population working in the corporate, financial and IT sectors. Large sections of the society are excluded from deriving the benefits of this high rate of growth in the national and per capita income levels.

The most important development in recent years is the acceptance of the objective of 'inclusive growth' as the major goal of the Eleventh Five Year Plan. While there is no precise, uniform definition of inclusive growth, economists have agreed on the following principles. 1. It refers to a high and sustainable increase in the gross domestic product (GDP) over a period of time with equitable distribution of income, 2. Sustained reductions in the levels of poverty and destitution and deprivation. 3. Ensuring gender equity and 4. Securing the benefits of economic growth and the opportunities to benefit from this process to the backward classes are the major aspects of inclusive growth. It is clear from the above discussion that this concept is not very new to the Indian planning. Since the Second Five Year Plan, India was aiming for these objectives. However, the Eleventh Plan provided for a

comprehensive discussion of the various issues involved in securing inclusive growth to the Indian masses. It aims at 'faster and more inclusive growth' of the economy. The Eleventh Plan identified some thrust areas which would help to ensure an equitable distribution of income and economic opportunities. It identified seven thrust areas to promote inclusive growth. They are as under:

1. Providing for Rapid Growth and Poverty Reduction, and Employment Generation: the economy needs to grow at nine percent per annum to ensure adequate production to meet the growing needs of the population. This calls a balanced growth of agriculture, industry and the service sectors. This growth has to be labour-intensive so that, the benefits reach a larger section of the population. There is an urgent need to promote the skill-capabilities of the labour force so that they can be gainfully and productively employed. Since the dependency ratio is estimated to be 0.59 in 2011, it is vital that the earnings per head are increased to ensure a decent standard of living.

2. Access to Essential Services: The existing availability of essential services like health, education and drinking water is grossly inadequate; attention must be paid to the provision of these services. The access to basic health, education and sanitation will determine the quality of population and their ability to participate in the growth process.

3. Social Justice and Empowerment: Despite various measures and legal provisions, discrimination and denial due to caste, regional, religious and gender differences continue. Measures are needed to bring in systems that allow SCs, STs, OBCs, minorities and women in to the mainstream society. In this case, the Panchayat Raj Institutions (PRI) does play an effective role. Strengthening of these institutions will allow larger participation in the growth process.

4. Environmental Sustainability: there is an urgent need to protect the environment. Since high population strains the ecological system for livelihood, it is essential that there is adequate attention is paid to conserving the water bodies, biodiversity and habitats for wild animals. The need for fuel and fodder calls for serious attempts at a forestation as well.

5. Gender Equity: since women constitute a major portion of the population, their well-being plays an important role in the overall economic and social development of the society. The opportunities available and used are not uniform across different regions, castes and religions. Thus, women and their problems are not homogenous in the Indian context. Therefore, it is necessary that

caste, community, religion and geography specific initiatives are introduced.

6. Governance: a major failure of the Indian economy ahs been the failure to provide transparent and efficient administration. While measures like the Right to Information Act (RTI) did bring in some sense of accountability, there is an urgent need to provide a larger role for the civil society organisations (CSOs) in the effective implementation of various schemes for the deprived sections. Also, it is necessary to introduce evaluation of different programmes on the basis of proper, quantifiable benchmarks. Proper accountability and adequate transparency in administration is also needed.

7. Infrastructure: availability of good quality and liable infrastructure is essential for connectivity of backward areas. Thus, the Plan provides for development of road, rail and air transport facilities. It also recognises the need to provide electricity at stable voltage and adequate and reliable telecommunication facilities.

13.2 HUMAN DEVELOPMENT IN INDIA

Human Development refers to the quality of life that the citizens of a country enjoy. It is a concept wider than economic development. While economic development refers to the improvement in the material wellbeing, the concept of human development encompasses to the health and educational status of the population and thus has a wider significance. According to the United Nations, 'human development refers to the process of widening people's choices and levels of wellbeing they achieve'. India, for example, posted impressive growth in recent years. However, its record/performance with respect to the quality of life leaves much to be desired. The levels of poverty, illness, malnutrition, deprivation, illiteracy are some of the issues on which India lags behind even some of the other developing countries. The concept of human development acquired new importance after various studies pointed out the role of human capital in the long-run development of the economy. Thus, human development refers to three essential choices that make for better life. They are as under:

1. A Long and Healthy Life: An individual is entitled to have a long and healthy life. This is seen in the life expectancy at birth. Longer the life expectancy at birth better is the human development.
2. Access to Knowledge: Knowledge empowers an individual and frees him/her from the danger of being exploited. The levels of literacy are seen as an indicator of the quality of life and level of human development.

3. Access to Resources: It is necessary that individuals have access to resources that ensure a decent standard of living. The per capita income of the country is taken as the indicator of the level of human development.

Taking into consideration the above three variables, the United Nations Development Programme (UNDP) introduced the concept of Human Development Index to measure the levels of human development among its members. The index is constructed as under:

A. Life Expectancy Index (LEI): this is measured as the relative achievement of the country vis-à-vis the highest and the lowest achievers among the UN member nations. Thus the LEI

$$= \left(\frac{India's\,LifeExpectancy - LowestamongUNMembers}{HighestamongUNMembers - LowestamongUNMembers} \right)$$

In India's case in 2004, this index was as follows: $\left(\frac{63.6 - 25}{85 - 25} \right) = 0.643$

B. Education Attainment Index (EAI): This index is also calculated using the highest and the lowest levels of educational parameters among the UN Member countries as in the case of life expectancy. This index is a weighted average index of the gross enrollment (2/3 weight) and literacy level (1/3 weight). The former is calculated as

$$\left(\frac{GrossEnrollmentRateinaMemberCountry - minimumEnrollmentamongUNMembers}{MaximumEnrollmentamongUNMembers - MinimumEnrollmentRateamongUNMembers} \right)$$

and the later as

$$\left(\frac{AdultLiteracyRateinthe\ Member\ Country - MinimumLiteracyRate}{MaximumLiteracyRateamongUNMemberCountries - MinimumLiteracyRate} \right)$$

Thus, for India in 2004, these are: $\left[\frac{2}{3} \right] \left(\frac{61 - 0}{100 - 0} \right) + \left[\frac{1}{3} \right] \left(\frac{62 - 0}{100 - 0} \right) = 0.614$

C. GDP Index: This index measures the relative standard of living of a UN member country in terms of the purchasing power parity GDP. The GDP of the concerned member country is compared to

that of the highest GDP in the world. Thus, we have the GDP Index given as:

$$\left(\frac{(\log \text{ of PPP GDP of the Member}) - \log(100)}{(\log \text{ of Maximum PPPGDP}) - \log(100)}\right)$$

In 2004, India's PPP GDP was $3139 and the highest PPP GDP among the UN Members was $40,000. Therefore we have India's GDP Index for 2004 as:

$$\left(\frac{\log(3139) - \log(100)}{\log(40{,}000) - \log(100)}\right) = \left(\frac{3.497 - 2}{4.602 - 2}\right) = 0.575$$

From the above three indices, we obtain the HDI for India in 2004 as:

$$\left(\frac{1}{3}\right)(0.643) + \left(\frac{1}{3}\right)0.614 + \left(\frac{1}{3}\right)0.575 = 0.611$$

India's HDI index improved from 0.413 in 1975 to 0.577 in 2000 to 0.619 in 2005. As a result, the rank of India from among 180 countries improved from 138 in 1994 to128 in 2005. It stood at 134 in 2007. It is interesting to note that countries like Sri Lanka have a higher HDI than India. This highlights the need to initiate concrete steps to improve the human development in India.

We now discuss the various initiatives taken by Government of India to promote human development and examine their efficacy in improving the living conditions of the masses. The efforts of the government were directed in promoting three inter-related aspects of human development. They are education, health and family welfare.

A. Education:

Education empowers an individual to be free from exploitation as well as given an opportunity to benefit from an expanding job market. Thus, providing education to the masses is an important aspect of human development. The number of educational institutions increased from 2.31 lakh in 1951 to 9 lakh in 1999 to a further 12,81,355 in 2007-08. During this period, the enrolment increased by eight times, from 24 million to 192 million. In 2007-08, there were 389 universities and 9,427 colleges offering higher education along with 1068 professional educational institutions. As a result of the government efforts, the literacy rate increased from 18.3 percent in 1951 to 65.38 percent in 2001. The following are the major initiatives to promote education. A major step in the universalisation of primary education is the 86th Amendment to the Constitution in 2002 making free and

compulsory primary education to all children in the age group of 5-14 years a fundamental right. In 2009 it was decided to establish 11 Central Universities in states where there are no Central Universities.

I Primary Education :

1. Sarva Shiksha Abiyaan (SSA) was introduced in 2001 to provide free and compulsory education for all. This scheme provides for the construction of new school buildings, classrooms, provision of drinking water and sanitation in schools, free text books and training of teachers. In 2004, a special fund, named Prarambhik Shiksha Kosh was started to fund the SSA. By September 2009, 2,88,155 new schools were constructed under this scheme. As a result of creation of better teaching facilities and infrastructure, the rural enrolment reached 96 percent in 2009.

2. Jan Shikskhan Sansthans: the government opened 194 centers to provide vocational training to non-literate labourers and backward sections of the society.

3. Mid-Day Meal Scheme: the government introduced this scheme to cover all the school-going children in the country. It covers nearly 10 crore children and in 2007-08, Rs. 7,324 crore were allocated for 3,479 educationally backward blocks. In 2009, the scheme was revamped with increased allocations for hiring cooks and the purchase of grains and cooking equipment.

4. National Programme for Education of Girls at Elementary Level (NPEGEL): This programme was introduced in 2003 to provide education facilities to the underprivileged and disadvantaged girls. This programme covers 3164 educationally backward blocks in 25 states. 35,252 schools are operational under this scheme covering 82.66 lakh students at a cost of Rs. 708.44 crore.

5. Kasturba Gandhi Balika Vidyalaya: This programme was launched in July 2004 to set-rp residential schools at elementary level for girls of backward classes and minorities. This scheme is operational in 24 states and by September 2008, 1,564 of these schools are operational covering 1,09,786 students. Since 01-04-2007, this scheme is merged with the SSA.

6. The government proposed in 2008 to construct 3500 hostels for girl students in educationally backward blocks. In 2009, 647 hostels were approved for construction.

The central government's expenditure on education increased from Rs. 1,37,800 crore in 2001-02 to Rs. 1,67,981 crore in 2008-09. As a percentage of GDP, this amounts to an increase

from 2.98 to 3.9. The following are the major achievements in the area of education in India.

II Higher Education:

Since the development of skills is based on the attainment levels at the higher education, government paid attention to secondary and higher secondary education as well. As a result, the number of secondary and higher secondary educational institutions increased form 7,416 in 1950-51 to 1,52,049 in 2004-05. The total enrolment in them stood at 37.1 million. Rashtriya Madhyamik Shiksha Abiyan (RMSA) [Scheme for Universalisation of Access to Secondary Education (SUCCESS)] was introduced in 2009 with the objective of achieving universal access to secondary education by 2017. Its immediate target is to achieve 75 percent enrolment at IX-X class by 2015. It also aims to improve the quality of secondary education with emphasis on employability. This scheme is aimed at providing necessary infrastructure and resources to improve the quality of education and to provide extra support for girls, rural children and the SC/ST students.

The government started a number of institutions to provide higher and technical education. As a result, the number of students enrolling for higher education increased to 11.34 million in 2005-06, with women students accounting for 40.39 percent.

Achievements:

1. Gross enrolment increased significantly from 22.1 million in 1950-51 to 177 million in 2003-04. The gross enrolment ratio stood at 96 percent in 2008-09.

2. The dropout ratio fell from 39 percent in 2001-02 to 31.4 percent in 2003-04, with the total dropouts being 95 lakh. The dropout ratio is still very high and needs attention.

3. Though the literacy rate improved from 18.3 percent in 1951 to 64.8 percent in 2001, India still has one of the highest rates of illiteracy in the world.

4. There is considerable improvement in the enrolment of women, but the female literacy rate is still 53.7 percent only. The total number of illiterates was 296 million in 2001.

Shortcomings :

1. The enrolment of girl students is still less than 50 percent.

2. The spending on education has been inadequate to make any significant difference to the coverage quality. Despite the fact that

the National Policy on Education 1986, proposed to spend six percent of GDP on education, not more than 3.9 percent of GDP was allocated for education. This is despite the government resolution to spend at least 6 percent of GDP on education.

3. The drop-out rates are still very high at 40 percent at the primary level. The 86th Amendment to the Constitution making education a fundamental right will not improve things if proper attention is not paid to the socio-economic factors responsible for dropping-out. Also, the lack of infrastructure, mainly in rural areas is not receiving proper attention. In many case, this is found to be the main cause of high dropouts, especially among girl students.

4. The teacher-student ratio is worsening across states due to lack of adequate teacher training facilities, proper incentives and this needs some immediate attention.

B. Health and Family Welfare :

An important aspect of human development is the provision of health care and family welfare facilities. They directly impinge on the quality of life. In this case also, India still has much to be done. Following are the major developments in the provision of health and family welfare facilities in India.

I. Health:

There has been considerable progress in the provision of health services since 1951. The total number of Primary Health Centres (PHCs) increased from 725 in 1951 to 1,73,770 in 2008. The number of dispensaries increased from 9,209 to 32,156 during this period. The number of trained nurses increased from 18,054 to 15,72,363 and the number of doctors from 61,800 to 84,852. This resulted in improvements in the general health care as can be seen in the fall in the cases of malaria, leprosy and polio. The major initiatives in the health sector are as under:

1. The National Health Policy (NHP) 2002 aimed at providing an acceptable standard of good health for the population by decentralisation of the public health system and enhanced investment in public health. As part of this, in 2004, Integrated Disease Surveillance Programme was introduced to check communicable and non-communicable diseases. Emphasis was laid on eradication on malaria, dengue, encephalitis, kala-azar and lymphatic filariasis. The National Leprosy Eradication Programme brought down the rate from 57.3 per 10,000 population in 1981 to 1.17 in 2005. 25 states eliminated leprosy and another six are near the goal.

2. With India having the second largest population of HIV-infected people, special attention is needed for this. Andhra Pradesh, Tamil Nadu and Maharashtra succeeded in stabilising the HIV infected population. The National AIDS Control Policy of 2002 provides for anti-retroviral treatment (ART) by 52 government hospitals and covers 23,784 patients in 18 states. 156 districts were recognised as high-risk. By November 2009, 91.9 lakh people were tested and 2.88 lakh were given anti-retroviral treatment. A total of Rs. 11,585 crore were allocated for this programme during 2007-12.The policy is also focusing on the high-risk cases of cardio-vascular diseases, mental disorders and cancer. The National Programme for Control of Blindness is initiated to control the incidence of blindness due to malnutrition and other problems.

3. The National Rural Health Mission (NRHM) was launched in 2005 to ensure greater access to public health care facilities to rural population. According to Economic Survey 2007-08, "NRHM has successfully provided a platform for community health action at all levels. Besides merger of Departments of Health and Family Welfare in all States, NRHM has successfully moved towards a single State and District level Health Society for effective integration and convergence". The highlights of this Programme so far are as under: 5,43,315 Accredited Social Health Agents/Link Workers have been selected so far in the States. 1,86,606 of them have drug kits. Since a major cause of diseases and ill-health is the lack of proper/adequate sanitation, government has initiated the process of setting-up the Village Health and Sanitation Committees (VH&SCs). 1,77,578 Village Health and Sanitation Committees are already functional to ensure proper sanitation facilities to the villages concerned. States are asked to speed-up the process of setting up of these committees wherever necessary.

4. Since a major cause of high infant and maternal mortality rates is the lack of proper delivery and neo-natal care facilities, government introduced the Janani Suraksha Yojana for institutional deliveries since 2004. More than 50 lakh women have been brought under the Janani Suraksha Yojana (JSY). This has led to a perceptible fall in the infant mortality rates.

5. Immunization Programme: In order to control the various diseases that can be controlled by immunization, the government launched a scheme of universalisation of immunization. As a result of this, all the children in the age group of 0 to 5 years are covered and this brought down the incidence of polio and other diseases. By 2005, India reached 99.9 percent immunization of children, especially in case of polio. The following table provides the progress in health since 1951.

Table 13.1: Progress in Health and Family Welfare 1991-2005.

Parameter	1991	2005-6
1. Crude Birth Rate	29.5	23.5 (2006)
2. Crude Death Rate	9.8	7.5 (2006)
3. Total Fertility Rate	3.6	2.9 (2005)
4. Maternal Mortality Rate (per 100,000 live births)	437 (1992-3)	301 (2001-03)
5. Infant Mortality Rate (0to4 years) per 1,000 live births	80	57 (2006)
6. Child Mortality Rate (0 to 4 years) per 1,000	26.5	17.3 (2005)
7 Couple Protection Rate	48.2 (1998-9)	N.A.
8. Life Expectancy		(2001-05)
a. Male	59.0	62.3
b. Female	59.7	63.9

6. The Protection of Women from Domestic Violence Act, 2005, which came into force on October 26, 2006, seeks to provide immediate relief to women facing situations of violence in their homes.

Though, India made considerable progress in human development, it still has a long way to go. Some of the other developing economies like Sri Lanka have better achievements than India. Corruption, apathy and indifference to the needs of the people on the part of public servants are often sighted as the major cause of failure to improve the living conditions of the masses. Attention must be paid to these factors.

13.3 TRENDS IN EMPLOYMENT IN RECENT YEARS AND PROBLEM OF UMEMPLOYMENT

I. Trends in Employment since 1991 :

India, employment is provided by formal and informal sectors. Informal sector refers to those activities where a formal training is not there. It includes tiny units engaged in production but their activities are not recorded, recognised, protected or regulated by the public authorities. Street vending, food processing, tailoring, are some of the informal activities. Formal sector refers to economic activity that is regulated by the public authorities.

Organised sector refers to economic activity that is supervised and regulated by the authorities. It comprises of all public sector units, and all units of non-agricultural establishments employing ten or more workers. Unorganised sector refers to units complementary to the organised sector Low wages, lack of income security, long working hours, lack of proper leave facilities and social security are some of the problems facing the workers in the unogranised sector.

Unorganised sector's share in employment has declined after 1993-94 from 86.5 percent to 84.2 percent. Therefore, it is still the main provider of industrial employment. The informal sector's share in total employment increased from 37.9 percent to 57.8 percent between 1993-94 and 2009-10. This helps us to understand the degree of economic exploitation of labour in the Indian economy.

Within the organised sector, employment comprises of work force in the public and private sector. Over the years, though the share of public sector in employment came down to the policy of liberalisation, public sector is still the major provider of organised employment. Table 13.2 shows the trends in employment in public sector and private sector. It should be noted that only seven percent of work force is engaged in the organised sector. This leaves the scope for exploitation of labour faced with massive unemployment.

Table 13.2 Trends in employments in organised sector (1991-2011)

Sector	1991	2001	2005	2010	2012
Public Sector (%)	71.3	68.9	68.1	62.2	60.5
Private Sector (%)	28.7	31.1	31.9	37.8	39.5
Total Organised Sector Employment (lakh)	237.4	277.9	264.6	287.7	289.9

Source: Reserve Bank of India (2012): Handbook of Statistics.

Trends in employment are explained in terms of category of employment Table 13.3 shows the division of employment by category during 1993-94 and 2009-10.

Table 13.3: Classification of Employment by Category (1993-94 to 2009-10):

Category	Total Male	Total Female
A Self Employed		
1. 1993-94	52.9	56.7
2. 1999-00	52.8	55.6
3. 2009-10	50.0	53.3
B. Regular Employment		
1. 1993-94	17.0	6.3
2. 1999-00	14.0	7.3
3. 2009-10	17.7	10.1
C. Casual Labour		
1. 1993-94	30.1	37.0
2. 1999-00	33.2	37.1
3. 2009-10	32.2	36.1

Source: NSSO: Different Rounds on Employment-Unemployment.

From the above table it can be seen that since the introduction of economic reforms in 1991, the share of self-employment has come down for both male and female workers. Regular employment has declined sharply initially for males and then recovered. In case of female workers there is a steady increase in the regular employment. The casualisation of male workers increased while that of females declined. It is reasonable to conclude that female workers are opting more for regular employment instead of self-employment or casual work.

II. Problem of Unemployment in India :

The most problem that is facing India is unemployment. It causes unutilised human resources, poverty, deprivation and social tensions. Unemployment is measured in terms of three concepts in India. The Usual Principal and Subsidiary Status (UPSS) measures unemployment as a percentage of total work force. The Current Weekly Status (CWS) and Current Daily Status (CDS) measure the time rate of unemployment. Of these, the CDS is considered to be the most appropriate measure of unemployment as it measures intermittent employment. Table 13.4 shows the different estimates of unemployment using these measures between 1993-94 and 2009-10.

Table 13.4 Estimates of Unemployment in India (1993-2009). Percent

Estimate	1993-94	2004-05	2009-10
1. UPSS	4.1	2.3	2.0
2. CWS	4.9	4.4	3.6
3. CDS	8.5	8.2	6.6

Source: NSSO: Different Rounds on Employment-Unemployment.

From the above table we can see that there is considerable improvement in the UPSS unemployment. There is a decline in the absolute number of unemployed also. The decline is attributed to the decline in the labour force. The CDS rate continues to be high and indicates the intermittent nature of employment. A high rate of CDS is the most important pointer towards the casualisation of labour.

The National Sample Survey Organisation (NSSO) provides the following estimates of unemployment for different years since 1993-94.

Table 13.5: Estimation of Unemployment (in millions) during 1993-94 and 2011-12:

Year	1993-94	1999-00	2004-05	2009-10	2011-12
Number of Unemployed (million)	7.4	8.97	11.17	9.84	10.84
Usual Principal and Subsidiary Status (UPSS) (%)	2.0	2.2	2.4	2.1	2.2

Source: NSSO: Different Rounds on Employment-Unemployment.

In India, the nature of unemployment is different between the rural and urban areas. We shall first examine the rural unemployment since it is more widespread.

A. Rural Unemployment :

In rural areas, there is employment only during some months of the year when agricultural operations are going on. The rest of the year, people remain unemployed. This is the seasonal unemployment.

Also, many people seem to be engaged in agriculture. But, the net addition to output due to some of them is either zero or

even negative. This is the disguised employment. In such cases, even if we remove some of the workers from agriculture, the total output will not be adversely affected. The decline of rural industries is the main cause of the rural unemployment.

B. Urban Unemployment :

Unlike in the rural areas, urban unemployment is open and undisguised. This problem is the source of many social and economic tensions. Some of the causes of urban unemployment are as follow: The industrial unemployment is caused by the slow rate of growth of employment is this sector. For example, during 1993-94 and 199-2000, the employment elasticity of industrial output came down from 0.33 to 0.09. It implies that lesser workers are required to generate the same volume of output. This is obviously the main cause of unemployment in the industrial sector. Large scale migration to urban areas is another reason for the rapid increase in economically active population. Since the rural poverty is widespread and agrarian distress is unaddressed, people are forced to migrate to the nearby towns and cities in search of livelihood. Unemployment among the educated is another major problem in urban areas. Due to lack of proper education system and vocational education, many educated youth fail to obtain jobs. This then results in the waste of human resources. Also, in India, there is a preference for government jobs. People keep searching in vain for government jobs. Due to liberalisation, government recruitments have come down significantly, further adding to the problem of educated unemployment.

III Major Employment Programmes of Government of India :

Government of India initiated various measures to promote employment opportunities for the needy from time to time since 1980. These policies were revamped, merged and redefined from time to time to reflect the changing needs of the poor and unemployed. Following are the major flagship employment programmes that are now operational.

a. Swarnajayanti Gram Swarojgar Yojana (SGSY) :

This programme was launched on April 1, 1999 by merging the various anti-poverty programmes that were operational till then. The objective is to provide income generating assets to the rural poor and make them self-employed. It is now redefined as the National Rural Livelihood Mission (NRLM) aiming at reducing poverty by enabling poor households to access gainful self-employment and skilled wage employment opportunities. Under this scheme, as in September 2011, 42.05 lakh Self-Help Groups (SHGs) were formed.

b. Swarna Jayanti Shahari Rojgar Yojana (SJSRY) :

This scheme was introduced on December 1, 1997 by subsuming all the urban anti-poverty programmes. It aims to provide gainful employment in urban areas through self-employment. It has five components: i) The Urban Self-Employment Programme, ii) the Urban Women Self-Employment Programme, iii) Skill Training for Employment Promotion among Urban Poor, iv) the Urban Wage Employment Programme and v) the Urban Community Development Network. During 2012-13, over 4 lakh urban poor households benefited from this scheme.

c. Prime Minister's Rogjar Yojana (PMRY) :

This scheme was launched during the Eighth Plan and aims at providing self-employment to educated unemployed youth by setting-up micro-enterprises. Nearly five lakh youth benefited from this scheme in the Eighth and Ninth Plans.

d. Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) :

This is the most ambitious rural employment programme so far. Under this, the Act guarantees provision of at least 100 days of wage employment to at least one member of every rural household whose adult members volunteer to do unskilled manual work. It aims at creating rural community assets like water conservation, drought proofing, land development, flood control and rural connectivity through all weather roads. The scheme is implemented through the active participation of the Panchyats. This scheme considered to be inclusive since most of the beneficiaries are women, SCs, and STs as workers in this scheme. However, it is found that in many cases, there were cases of tampered records of beneficiaries, non-payment of unemployment allowance, taking up of unproductive programmes and there is no quality control on the work done.

Check your Progress :

1. What is informal sector?
2. What is formal sector?
3. What do you understand by organised sector>
4. How is organised sector defined in India?
5. How is unemployment measured in India?

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13.4 SUMMARY

1. Inclusive growth' concept is based on the understanding that both economic and non-economic factors play an important role in determining the outcomes on the deprived sections of the economy like the Scheduled Castes (SCs), Scheduled Tribes (STs), minorities and women.

2. Human development refers to three essential choices that make for better life. They are i) a long and healthy life, ii) Access to knowledge, and iii) Access to resources.

3. Over the years, though the share of public sector in employment came down to the policy of liberalisation, public sector is still the major provider of organised employment. It should be noted that only seven percent of work force is engaged in the organised sector. This leaves the scope for exploitation of labour faced with massive unemployment.

4. The most problem that is facing India is unemployment. It causes unutilised human resources, poverty, deprivation and social tensions. Unemployment is measured in terms of three concepts in India. In India, the nature of unemployment is different between the rural and urban areas.

5. Government of India initiated various measures to promote employment opportunities for the needy from time to time since 1980. These policies were revamped, merged and redefined from time to time to reflect the changing needs of the poor and unemployed.

13.5 QUESTIONS

1. Explain the nature and significance of inclusive growth.
2. What are the measures initiated by the government to bring about inclusive growth in India?
3. Explain how the human development index is constructed.
4. What are the measures to promote human development through health?
5. What are the measures taken by the government to promote education?
6. What are the different measures initiated to promote family welfare?
7. Examine the trends in employment since 1991.
8. Explain the causes of unemployment in India.
9. What are the major employment programmes undertaken by the government?

14

Module 5

AGRICULTURE, INDUSTRY AND SERVICES SECTOR

Unit Structure :

14.0 OBJECTIVES

- Understand the trends in agricultural production and productivity since 1991
- Understand the importance of food security and measures to ensure it
- Understand the National Agricultural Policy 2000
- Understand the implications of WTO Agreements

14.1 TRENDS IN AGRICULTURAL PRODUCTION AND PRODUCTIVITY SINCE 1991

Agriculture occupies an important place in the Indian economy. A vast majority of population depend on it for their livelihood. Given the large population, agriculture also has implications for food security to its population. Thus, both the size of agricultural output and the productivity are central to the development issues of the Indian economy. We examine some of the trends in agricultural production and productivity.

Since the introduction of high yielding varieties (HYVs) in 1965 as part of the Green Revolution, agricultural output has seen significant increase. Table 14.1 gives some trends in the production of the major agricultural products since 1991.

Table 14.1: Trends in Major Agricultural Products (1992-2013) :

Crop	Eighth Plan	Ninth Plan	Tenth Plan	2011-12	2012-13
Rice (m.t.)	78.7	87.3	85.6	105.3	101.5
Wheat (m.t.)	62.9	71.3	70.2	94.9	92.3
Other Cereals (m.t.)	4.9	4.5	3.6	3.9	4.0
Pulses (m.t.)	13.1	13.1	13.3	17.1	17.6
Total Food grains (m.t.)	189.9	202.9	202.2	259.3	250.2
Oil Seeds (m.t.)	21.9	21.2	23.2	29.8	29.5
Sugarcane (m.t.)	258.4	292.4	277.9	361.0	334.5
Cotton (m.b.)	12.2	10.8	16.0	35.2	33.8

m.t. = million tonnes; m.b. = million bales.
Source: Government of India: Economic Survey (various issues).

From the above table, it can be seen that the agricultural production is erratic in case of all major products. This has serious implications in terms of inflation, food security and the welfare of the people. It can be seen that only in those years when the monsoon was good the production in agriculture was high. In other words, even after sixty years of planned economic development, agriculture is still a victim of the vagaries of weather. To understand the importance of this factor and the need to promote agriculture, we examine the trends in the per hectare yield of major agricultural products. Table 14.2 gives these trends.

Table 14.2: Trends in Agricultural Productivity (1990-2013) (kg per hectare):

Crop	1990-91	2000-01	2011-12	2012-13
Rice	1,740	1,901	2,393	2,415
Wheat	2281	2,708	3,177	3,136
Pulses	578	544	699	737
Total Food grains	1,380	1,626	2,079	2,086
Oil Seeds	771	810	1,133	1,120
Cotton	225	190	491	486

Source: Government of India: Economic Survey (various issues).

From the above table we can see that the exiting productivity is not adequate to meet the food needs of the economy. Productivity in Indian agriculture is low compared to its potential. It is estimated that in case of rice, the existing productivity is only about 60 percent of the potential. In case of wheat and maize, it is less than 40 percent of the potential. In case of jute and sugarcane, only 70 percent of the potential production is realised. Thus, there is a lot of scope for improving the productivity in agriculture to ensure adequate production of all important products. More importantly, in comparison with other countries also our productivity is woefully low. India's levels of productivity are lower compared to some of the developing countries. Thus, it is essential that the government pays adequate attention to improving agricultural production and productivity. We examine some of the causes of low agricultural productivity in India.

B. Causes of Low Agricultural Production and Productivity :

1. Given the nature of ownership and land relations, the cultivator is forced to think that any extra output generated will be expropriated by the land lord. And hence he prefers to hold on to subsistence agriculture only.
2. The average size of the landholding is uneconomical. Given the pressure on land, subdivision and fragmentation are very natural. The farmers are forced to stick to the unproductive traditional methods of cultivation. As a result, modern mechanised methods that improve productivity cannot be adopted effectively.
3. Excess utilisation of chemical fertilizers is noted by many studies as the main cause of land degradation and accounts for a major part of soil erosion.
4. The major cause of low productivity is the lack of institutional credit. After the nationalisation of banks in 1969 government encouraged the commercial banks to actively provide credit to agriculture at subsidised rates, the situation changed with the introduction of economic reforms. Emphasis on reduction in non-performing assets (NPAs), branch delicensing have lead the commercial banks to shy away from providing agricultural credit.
5. As noted earlier, the provision of irrigation facilities is a major challenge to the agriculture. After 1980, the real public sector investment in agriculture has come down drastically. With the Ninth Plan emphasising the private participation in agriculture, the neglect of agriculture reached its pinnacle. Since irrigation is a public good it needs to be provided by the State only. It is imperative that the government pays adequate attention to

providing institutional support to agriculture in the form of extension services.

6. Lack of adequate storage facilities is a major problem. Since the saying power of the cultivators is low, they are forced to undertake distress sale of output and thus lose income. The different measures to promote warehousing and storage facilities are grossly inadequate compared to the needs of the agricultural sector. It is observed that often the market yards are dominated by traders who conspire to lower the purchase prices. This causes a loss of income to the cultivators.

14.2 PUBLIC DISTRIBUTION AND FOOD SECURITY

A very important outcome of economic growth in a poor country like India is providing food security. In simple words, food security means ensuring adequate supplies of food grains to the population. The concept of food security has undergone a change in the last few decades. During the late sixties to 1980s it meant having enough food stocks with the government to stabilise the food grains prices only. The concept of food security encompassed providing minimum support prices (MSP) to the farmers ensuring profitability, price stability through open market operations of procurement and sale through Food Corporation of India (FCI), maintaining buffer stocks and the Public Distribution System (PDS). This policy helped to ensure grain surplus, stable prices of basic food prices and high farm incomes.

During the 1990s, various factors like the fiscal situation of both the central and state governments made it difficult to hold food stocks beyond a certain level, and at the same time the food deprivation to many of the below the poverty line (BPL) families meant holding of food stocks when there is malnutrition and under-nourishment due to lack of purchasing power was not considered to be self-sufficiency. The government initiated measures to make food grains available to the BPL families at reasonable prices to ensure that there is no privation. The government decided to bring down the cost of holding food stocks by fixing ceilings on buffer stocks.

The major issues in the concept of food security are as follow: 1) The procurement of food grains rose from 22.4 million tonnes in 1995-96 to 41.4 million tonnes in 2004-05. 2) the food grains stocks were two-and-a-half times the buffer stock norms during 2001 (45.7 as against a requirement of 16.8 million tonnes) and three-and-a-half times during 2002 (48.2 m.t., and 16.8 m.t.) In 2005, the actual stocks were 21.7 m.t., as against a buffer stock requirement of 16.8 m.t. For the government this translates into unproductive expenditure. 3) It is observed that during the last few

years the gap between central allocations of food grains and the off-take by the state governments is increasing. This is very pronounced in case of wheat. 4) The central government has been revising the central issue price (CIP) of food grains continuously. The minimum support price (MSP) for wheat increased from ` 360 per tonne in 1994-95 to ` 640 per tonne in 2004-05. In case of rice it was ` 340 in 1994-95 and increased to ` 560 and 590 per tonne depending on the quality. The state governments are not in a position to afford these high cost grains. 5) The total food subsidy given was ` 2, 450 crore. in 1990-91. This reached to `85,000 crore in 2012-13. As a percentage of GDP, food subsidy was 0.43, 0.85 respectively. 6) The cost of holding the food stocks is also proving to be very high. For rice, the economic costs have increased from ` 1137.1 per tonne in 2000-01 to ` 2,000 in 2010-11. For wheat, the same rose from ` 883.5 to ` 1,500. Out of the food subsidy given by the government, 41.5% is spent on carrying/distribution costs of the FCI. Thus, it is argued that the government can reduce the burden of food subsidies by reducing the stocks to the levels recommended by the expert group on food grains. 7) Most of the allocations under the PDS have reached the above the poverty level (APL) families in urban areas. The reach of PDS in rural areas has been limited due to administrative as well as economic factors. It has been estimated that only 30% of the allocations are made to the rural families under the PDS. As the prices in the PDS outlets came close to the open market prices, the APL families opted to buy better food grains from the market than the fair price sops. Thus the off-take from the PDS outlets fell during the late 1990s. 8) It is argued that the NSS data show that the per capita expenditure on food and cereals fell during the 1990s in both rural and urban areas. There is a shift away from cereals to non-cereals like mild, fruits and other items. In this changed demand conditions, it is not necessary to provide cheaper food grains on a universal basis. 9) The spread of PDS is not uniform throughout the country. It is more widespread in rich states like Kerala, Tamil Nadu, Karnataka and Andhra Pradesh. Its reach is very limited in poor states like Bihar, UP, Rajasthan, and MP, which account for major BPL families. The NSS reports that there is a significant decline in the per capita consumption of food grains. The per capita calorie intake has declined both in rural and urban areas. Out of the infants with low birth weight, India accounts for more than half the total. This indicates malnutrition and under nourishment in face of surplus food stocks and needs immediate attention. 10) The per capita consumption of pulses is only 65% and that of vegetables is only 50% of the minimum nutritional requirements, adding to the problem of malnutrition, morbidity and inefficiency. 8) It must be accepted that given the increase in per capita income in the last fifteen years, there must be selectivity in the reach of PDS to ensure both efficiency and equity. The introduction of Re-vamped public Distribution System (RPDS) in

1997, Antyodaya Anna Yojana and Annapurna Yojana are positive initiatives. The RPDS aims at providing food grains to BPL families at 70% of the economic costs. The other two are aimed at providing the weakest of the social groups. An estimated 6.52 crore families are benefiting from these schemes. Speculative price hikes and political pressures from farmers in food surplus states have resulted in large increases in food prices and the poor families are pushed into deprivations. The concept of food security should be viewed in the context of declining public investment in irrigation, lack of access to safe drinking water, sanitation, falling growth of fertilizer use, and lack of local involvement in the distribution of food grains. Various studies have shown that the employment generation schemes were more effective in providing safety net to the poor in the form of subsidised food. It is suggested that the Panchayat Raj Institutions (PRIs) must be more actively nutrition requirements of involved in the distribution of food grains. It is important to note that there can not be one blanket scheme of PDS to meet the nutrition requirements of various regions.

There is an economic compulsion in rationalising the MSP since the benefits are reaching only the well to do farmers. As the cost of procurement increase, government is forced to increase the PDS price of food grains. This led to forced malnutrition of the BPL families. Attempts must also be made to reduce the operational costs of the FCI and improve efficiency in holding food stocks. It is also observed that the state level sales taxes and mandi fees are also pushing up the cost of procurement. These also need to be addressed.

Since the WTO provisions do not allow direct subsidisation, in future, it may become necessary to provide specific targeting of food subsidies. The free trade in food grains may as well result in large fluctuations in the food grain prices and the FCI can be entrusted with the task of stabilising them in conformity of the WTO provisions. Ensuring nutritional standards would require providing both food and non-food items at reasonable prices to the BPL families. Subsidies must be provided only to common varieties of food grains or on those items whose production costs per unit of nutritional requirements are the least. Long-term measures like extension of irrigation facilities, improvements in the knowledge of farm management techniques, easy access to markets will help to improve food security without the need to hold excess stocks and save public money. Redistribution of land and non-land assets, provision of adequate, efficient credit facilities, generation of employment, would go a long way in providing food security to the BPL families.

In 2013, the Government introduced the National Food Security Bill. This Bill allows legal entitlement to food nearly 67

percent of the population for subsidised food grains. Individual entitlements are given instead of the previous family-based allocations. It aims to cover 75 percent of rural and 50 percent of urban population. It proposed to provide free food for all children between the age of six months and six years. School children up to Class VIII will be provided a free meal every school day in all schools run by government or government aid. Local anganwadis will provide a free every day to pregnant and new mothers along with a cash subsidy. The major problem with this ambitious programme is the estimated food subsidy estimated at ` 1,20,000 to ` 1,30,000 crore.

14.3 NATIONAL AGRICULTURAL POLICY 2000

The National Agricultural Policy 2000 was announced on July 28, 2000 in the Parliament to promote agricultural growth that suffered serious set back in the nineties. The Policy observed that the decline in public investments in agriculture, controls on the movement, storage and sale of agricultural products have adversely affected the profitability and contributed to a decline in the growth of this sector.

The Policy is called Rainbow Revolution as it aims at a comprehensive development of all the sub-sectors in agriculture like, horticulture, seri-culture, animal husbandry, poultry, aqua-culture and aromatic and medicinal plants.

The policy aims at ensuring food and nutrition to the population, providing raw materials for expanding industries, generating exportable surplus and ensuring equitable returns foe the farming community. The following are the objectives of the NAP 2000:

a. A growth rate of over 4% p.a. in the agricultural sector.
b. Efficient use of resources and conservation of soil, water and bio-diversity.
c. Growth of equity across regions and farmers.
d. Promoting demand-driven growth that caters to the domestic markets and maximise the benefits from exports of agricultural products that arise from liberalisation and globalisation.
e. To promote technologically, environmentally and economically sustainable growth in agricultural sector.

In order to achieve the above objectives, the NAP 2000 proposes the following steps:

i) To contain biotic pressures on land and to prevent the fraudulent transfer of agricultural land for non-agricultural purposes.

ii) Promote the effective use of wastelands by providing financial incentives and entitlements for the landless labour and to the backward classes.

iii) To promote multi-cropping and inter-cropping to conserve soil fertility.

iv) To cover 2/3 of the cropped area by watersheds and promote the use of drip and sprinkler irrigation to conserve water resources.

The NAP 2000 has the following strategy to achieve the objectives:

a. Greater attention will be paid to the development of new varieties of food crops with higher nutritional value.

b. Ensure adequate food supply and exportable surplus by promoting horticulture, floriculture, aromatic and medicinal plants among others.

c. Improve animal protein availability by promoting animal husbandry, poultry, fisheries, etc.

d. Involve private sector and co-operatives to encourage development of contract farming, and animal husbandry.

e. Use bio-technology, remote sensing, energy saving technologies to promote production and productivity.

f. Ensure the sustainability of extension services by promoting realistic cost recovery, keeping in mind the needs of small and marginal farmers.

g. Promote empowerment of women by providing access to land, credit and other services.

h. Implementation of the land reforms by consolidating land holdings, redistribution of surplus land, tenancy reforms, improvement of land records and providing land leasing in oil seeds, cotton and horticulture.

i. A comprehensive agricultural insurance scheme to cover all the risks from sowing to post-harvesting operations, and ensuring reasonable prices for all farmers throughout the country.

The NAP recognizes that agriculture should be kept out of the purview of taxes and subsidies are necessary to protect the interests of the farmers. In light of the WTO restrictions on subsidies, there is need to monitor global prices of agricultural prices.

However, the policy was fraught with inconsistencies from the beginning. Some of the shortcomings of the policy are as follow:

1. While the NAP set a target of 4% annual increase in the agricultural output, during 2000-2005, the actual growth rate of food grains production was only 0.63%. The pulses production recorded a growth rate of 0.78%. The yield per hector rose by 1.29% for food grains and by 2.01% for all agricultural commodities. This is undoubtedly a blow to the food security. This situation is termed as “food security without ending hunger”.
2. The policy does not specify any quantitative targets for any of the objectives. In the absence of any verifiable target, the promises in the policy cannot be checked.
3. The policy does not mention the states that lagged behind in agricultural development and does not come out with any specific programmes for promoting agricultural production and productivity in these states.
4. While the policy emphasizes the role of private investment in promoting agricultural growth, it does not come out with any specific measures to do this. Nor can we expect the small and marginal farmers to undertake any large investments in this direction. There is no target set for the volume of private investment in agriculture.
5. The policy wrongly expects contract farming to generate employment in agriculture. Contract farming by its very nature will discourage labour-intensive techniques of production and relies more on capital-intensive, labour-saving technologies. Thus, we may end-up with larger open-unemployment in rural areas.
6. The policy fails to provide an action plan to achieve its objectives. Since agriculture is a state subject, the participation of states is essential to achieve the stated objectives of the policy. There are no institutional arrangements mentioned to achieve this. In short, the National Agricultural Policy 2000, is a policy statement that has no direction and no strategy to achieve its stated objectives. The failure to reverse the trend in public investment in agriculture, is reflected in the falling production and productivity of this sector.

14.4 WTO AGREEMENTS AND AGRICULTURE

The World Trade Organisation (WTO) came into existence in 1995 on the promise of a near-free trade regime among all the member countries. It is based on a set of Agreements that were agreed up on by the members. An important component of these

agreements is a set of arrangements governing the trade in agricultural commodities among member countries. This is known as the ‘Agreements on Agriculture’ (AoA).

Prior to the AoA, the USA and the EU dominated international trade in agriculture as the two main suppliers of important all food grains like wheat and maize; Australia dominated the trade in milk products. The high levels of domestic subsidies to agriculture in these countries made it impossible for developing countries to export to the developed country markets. The AoA proposed to limit these subsidies and to allow greater market access to the developing countries. At the same time, the developed countries also had high effective tariffs on imports of agricultural trade. Lowering them was also part of the agreements. India as one of the original member of the WTO was expected to gain immensely due to the opening up of trade in agriculture. As trade in agriculture is freed, it was hypothesized that India would be able to access these markets. It would be able to obtain better prices for its products. Before exploring the effects of AoA, let us briefly understand its main features.

1. Market Access: This refers to the system of restrictions on the exports of agricultural goods from the developing countries. Prior to AoA, there were a number of non-tariff barriers (NTBs) on trade in agriculture. The Agreement mandated the removal of all NTBs and a gradual reduction in tariffs by a simple average of 36 percent by the developed countries (by 2000), and by 24 percent by the developing countries (by 2004). By the end of the implementation period, the market access to agricultural imports should be provided at five percent of the domestic consumption. In other words, the developing countries will have the opportunity to export goods worth 5 percent of the total consumption of the developed countries by 2000.
2. Reductions in Domestic Support: An important and contentious issue is the provisions regarding the reductions in support to agriculture by national governments. A number of schemes operate both in the developed and developing countries to make agriculture a viable activity. Some of them, however, prevent free flow of agricultural products across countries. The AoA deals with these. According to this, all domestic support to agriculture is classified into two groups: 1) trade distorting and 2) non-trade distorting (or minimum trade distorting). All trade-distorting subsidies are classified as ‘Amber Box’ subsidies, and are subject to reductions. Included in the amber box are the measures undertaken to support prices and subsidies directly related to production quantities. Amber-box support is subject to limits expressed in terms of a "Total Aggregate Measurement of Support" (Total AMS) which combines all supports for specified

products, together with supports that are not for specific products, into one single figure. All non-trade distorting subsidies are classified into two groups: a) The 'Blue Box' subsidies which are also permitted, but on the condition that they must not lead to increased production, and b) the Green box subsidies which are deemed to cause minimal distortion, and typically include those to research and development (R&D), environmental protection and animal welfare. There is no upper limit to these subsidies and they are not subject to any reduction commitments. c) Special and Differential (S&D) Box subsidies refer to the certain subsidies like input subsidies to low-income and resource poor farmers in developing countries. These are allowed within the WTO framework. The AoA proposes to limit the Blue and Amber Box subsidies to ensure the competitive trade in agriculture.

3. Aggregate Measure of Support (AMS): This refers to the total support given to the agriculture under the Amber Box and is subject to reductions. These are classified into i) Product Specific Support like in case of difference between the domestic support prices and external reference price, ii) Non-product Specific Support like subsidies to agricultural inputs like fertilizers, electricity, irrigation and credit. This subsidy is taken as the total level of domestic support and not to individual commodities. The total AMS is stipulated for a 20% reduction in case of developed countries in 6 years and by 13% by developing countries in 10 years. Table 14.3 gives the Reduction Commitments under the AoA.

Table 14.3: Reduction Commitments as envisioned in AoA:

Measure	Developed Countries (1995-2000)	Developing Countries (1995-2004)
1.Average Reduction of Tariffs on Agricultural Products (Base 1986-88)	36%	24%
2. Total AMS (Base 1986-88)	20%	13%
3. Export Subsidies (Base 1986-88)	36%	24%
4. Volume of Export Subsidies	21%	14%

Source: WTO (1995): Agreements on Agriculture.

Apart from the above three, there is another set of subsidies known as '*de minimis*' subsidies that refer to policies which amount to domestic support at less than 5%of the value of production for

developed countries and at less than 10 percent for developing countries. These are excluded from any further reduction commitments.

1. Other Agreements related to Agriculture: Though not directly part of the AoA, there are some other provisions of the WTO that have an important bearing on trade in agricultural products. Some of them are given below:

A) Sanitary and Phyto-Sanitary (SPS) Measures: These are related to measures considered necessary for protecting human, animal or plant life. Countries can fix higher standards than international standards under Article 2 of the WTO Agreements if there is scientific justification for them.

B) Trade Related Intellectual Property Rights (TRIPS): Under these provisions, protection of plant varieties either by patent or by an effective *suigeneris* or by any other combination thereof can be granted.

C) Technical Barriers to Trade (TBT): These are instruments that are used for setting up international standards and development of national testing and certifying bodies to avoid discrimination against exports.

From the above discussion it may appear that, the AoA is a non-discriminating arrangement to promote free trade in agricultural products. However, reality is contrary to this. Given below are some of the problems that the developing countries are facing in their trade with developed countries.

1) High levels of protection in developed countries are replaced by subsidies. For example, the USA spends more than nearly 33% of its GDP from agriculture on subsidies. For Japan, it is 25%, Canada and the EU 13%. More importantly, they are able to shift the subsidies from one category to another to avoid action.

2) Contrary to the reduction commitments agreed upon, the OECD countries support to agriculture rose from $ 242,474 million in 1986-88 to $ 279,845 million in 2008. As percentage of gross farm receipts, the subsidy was 37% in 1986-88 and 29% in 2005. The following table gives the limiting commitments under the AMS.

Table 14.4: Comparison of Agricultural Subsidies (2000) (in US$ million)

Country	Green Box	Blue Box	Current Total AMS	*de minimis*	Total
EU	20,749.9	23,040.1	56,571.1	612.1	100,698.2
USA	51,246.0	--	6,238.1	811.6	58,295.7
Canada	859.2	--	364.1	665.1	1,888.4
Japan	23,445.4	392.1	5,987.1	589.8	30,414.4
Switzerland	2,190.4	--	2,257.6	--	4,448.0
Norway	515.4	1,044.4	1,442.7	--	3,002.5
Total	98,731.3	24,476.6	72,860.7	2,678.6	198,747.2

We can see that the developed countries spend a huge amount on subsidising their agriculture, but insist on the developing countries to reduce their subsidies to agriculture. Interestingly, some developed countries like the USA argue that the developing countries should also increase their level of support to agriculture. However, since in developed countries agriculture accounts for a small portion of GDP (2 to 4%), even if the support is 50%, the total spending would be only one percent of GDP. If the developing countries were to subsidise their agriculture by the same percentage, they would have to spend between 14 to 24% of their GDP. This is simply not possible. Thus, there is no way that the developing countries can match the levels of support to agriculture that is provided in the developed countries. This results in asymmetry in the support and gives advantage to the developed countries in terms of prices and exports.

1) More importantly, most of the subsidies provided by the developed countries are placed in the Green Box. Whereas, the subsidies extended to agriculture by the developing countries come under the Amber Box. Therefore, these subsidies are actionable. The administrative and institutional factors make it difficult for the developing countries to shift their subsidies from one box to another.

2) Though the developed countries lowered their tariffs on agricultural products by 36%, they are still very high. There is no substantial decrease in the tariffs on products that are of interest to the developing countries.

3) The use of TBTs and SPS measures by the developed countries is another important problem. It has been found in case of India's exports of mangoes and peanuts that the standards set are unscientific and cannot be justified. Nevertheless, by the time the dispute is settled, farmers lost the season. It is found that processed agricultural products have lesser levels of NTBs. However, in most of the developing countries, facilities for testing and certification are not available and the farmers are left without any protection against the restrictions that can be imposed on their exports.

4) Problems associated with patents are another major issue in trade in agriculture. The recent Texamati rice case is a pointer in this direction. The IPR regimes in developed countries are felt to undermine agriculture in developing countries. Many of the livelihood concerns of the developing countries are not yet answered. The linking of NAMA with liberalisation of agricultural trade is one simple example of the attitude of the developed countries. There is some justification in the argument that WTO is a new instrument of neo-colonialism, designed to exploit the developing countries and ensure that they remain dependent on the rich countries.

14.5 SUMMARY

1. Agriculture occupies an important place in the Indian economy. A vast majority of population depend on it for their livelihood. Given the large population, agriculture also has implications for food security to its population. Thus, both the size of agricultural output and the productivity are central to the development issues of the Indian economy.

2. The exiting productivity is not adequate to meet the food needs of the economy. Productivity in Indian agriculture is low compared to its potential. India's levels of productivity are lower compared to some of the developing countries. Thus, it is essential that the government pays adequate attention to improving agricultural production and productivity.

3. The concept of food security in India encompassed providing minimum support prices (MSP) to the farmers ensuring profitability, price stability through open market operations of procurement and sale through Food Corporation of India (FCI), maintaining buffer stocks and the Public Distribution System (PDS). This policy helped to ensure grain surplus, stable prices of basic food prices and high farm incomes.

4. The National Agricultural Policy 2000 was announced on July 28, 2000 in the Parliament to promote agricultural growth that suffered serious set back in the nineties. The Policy is called Rainbow Revolution as it aims at a comprehensive development of all the sub-sectors in agriculture like, horticulture, seri-culture, animal husbandry, poultry, aqua-culture and aromatic and medicinal plants.

5. An important component of these agreements is a set of arrangements governing the trade in agricultural commodities among member countries. This is known as the 'Agreements on Agriculture' (AoA).

14.6 QUESTIONS

1. Explain the trends in agricultural production and production since 1991.
2. What are the causes of low agricultural productivity in India?
3. What is food security? What is the need for food security?
4. Explain the concept of food security. What are the various measures initiated by the government to ensure food security?
5. What are the various problems faced in providing food security?
6. What are the main objectives of the National Agricultural Policy 2000?
7. What are the different measures proposed in the National Agricultural Policy 2000?
8. Explain the main features of Agreements on Agriculture.
9. What are the various implications of the WTO Agreements on Agriculture?

15

INDIA'S INDUSTRIAL ECONOMY

Unit Structure :

15.0 OBJECTIVES

- Understand the nature and structure of industrial growth in India after 1991.
- Understand the main features of New Industrial Policy 1991.
- Understand the role, problems, and policies related to small scale sector.

15.1 INTRODUCTION

A: Growth and Diversification of Indian Industry since 1991:

The industrial sector is the key to an economy's growth and development. India adopted the strategy of planned economic development in 1952 with the public sector playing a crucial role in the economy. As part of this strategy, restrictions were imposed on the private industrial activity and a wide variety of licenses and permits were introduced to regulate the private sector. After forty years of planning, the dismal performance of industrial sector forced the government to change the strategy and opt for liberalisation in 1991. A new set of policies were adopted that aimed at encouraging the private enterprise and promote industrial activity. To understand the impact of this policy, we shall examine the growth and diversification of Indian industry since 1991.

India during the post-reform period emerged as an important production center for major consumer goods industries. It is an important center for the manufacturing of automobile components. However, the same could not be achieved in case of the capital goods. Following table gives the growth rate of different sectors of the industry since 1991 in terms of the different Five Year Plans.

Table 15.1 Growth of Indian industry since 1991 (Annual Average)

Sector	Eighth Plan (1992/3-1996/7)	Ninth Plan (1997/8-2001/2)	Tenth Plan (2002/3-2006/7)	Eleventh Plan (2007/8-2011/12)
1. Basic Goods	6.8	4.1	6.6	5.4
2. Capital Goods	8.9	4.7	14.4	14.3
3. Intermediate Goods	8.5	5.8	6.2	4.0
4.Consumer Goods	6.6	5.5	9.6	7.8
a. Durables	13.4	10.7	8.8	15.6
b. Non-durables	4.8	3.8	10.0	3.4
General Index	7.4	5.0	8.2	6.9

Source: Reserve Bank of India (2013): Handbook of Statistics.

From the above table it can be seen that there is considerable volatility in the production of all major industrial groups. The growth in the basic goods sector is less than the growth rate achieved in the pre-reform period. The intermediate goods sector also recorded low and volatile growth rates. It is the consumer goods industry that has come to dominate the industrial activity. Once again the durable consumer goods sector recorded volatile growth. This volatility not only results in industrial distortions, but also generates inflationary pressures on the economy. The overall index is lower than that of the pre-reform period. We shall now turn to the causes of this dissatisfactory performance of industry since 1991.

15.2 CAUSES OF LOW INDUSTRIAL GROWTH AFTER 1991

There are a number of causes that explain the growth of industrial sector since 1991. Following are some of the important of them.

1. With the opening of the economy, the industrial sector had to face the competition from the foreign producers. In fact, in India, for a long time industrial policy was guided by this consideration. With the entry of the foreign countries, Indian industry could not compete effectively.

2. After 1991, the public sector investment on infrastructure declined. The market was supposed to provide these utilities. As a result, there developed acute shortage of all essential goods and services. The case of electricity is one in this. Frequent and unscheduled power cuts disturbed the industrial and agricultural activities. The lack of proper roads, and long handling time at the major ports, are some of the other adverse consequences of the neglect of infrastructure.
3. Due the stock market scams, initially the firms found it difficult to obtain the necessary funds for investment from the stock markets. Subsequently, speculation in gold and real estate diverted funds from industrial sector to these activities and the industry was forced to slow-down its investment proposals.
4. It was observed that during the post-reform period, Reserve Bank of India tried to reign-in the inflationary pressures. It followed a high interest rate regime towards this goal. As a result, the market interest rates increased and made investment costly for the firms.
5. Low and erratic agricultural production also resulted in fluctuations in the demand for industrial goods. This is held as a the main cause of volatile industrial growth after 1991.
6. The exports were governed by external demand conditions. As Indian economy opened-up, it has to face the negative side of liberalisation. With world economy acing frequent crisis, Indian industry was also buffeted by these conditions.

It is important to note that the process of industrial development needs long-term planning and direction by the government. Unbridled freedom to private sector is not the option for any country, not for India.

15.3 NEW INDUSTRIAL POLICY 1991

The watershed in India's economic policy was on July 25th 1991 when the then Finance Minister Dr. Manmohan Singh announced the New Industrial Policy (NIP 1991). This Policy aims at integrating the Indian industry with the global economy and facilitate the gains from international division of labour. The watch words of this policy are: "liberalisation", "privatisation" and "globalisation". Thus, this strategy of rapid economic development through industrial development was also called "the LPG Strategy". Following are the main instruments of this strategy:

a. De-reservation of Industries: In India, seventeen sectors were exclusively reserved for the Public Sector. No private firm can enter into these. Government started opening them up for the private sector in a phased manner. And the reserved industries

were gradually reduced to only three. All other sectors are now open for private sector investments.

b. Abolition of MRPT Act: The Monopolies and Restrictive Trade Practices Act was the most severe of all economic legislation in India. It placed restrictions on the assets that a private business house can hold. It translated into restrictions on capacity, product-mix and so on. As the industrial sector is based on indivisibilities, these capacity restrictions only promoted inefficient production. These restrictions were all removed in 1991.

c. Foreign Direct Investment (FDI): The foreign investment is an important complement to the domestic investment. When domestic producers do not have the necessary technology, and/or capital, a foreign investment is a reasonable alternative. The restrictions on foreign investment proposed that these investments should not exceed 49 percent of the total investment. These restrictions were removed. Now in all important sectors, government allows 100 percent foreign direct investment. A Foreign Investment Promotion Board (FIPB) is set-up for the speedy clearance of investment proposals from abroad.

d. Abolition of Industrial Licensing: By 1991, there were a variety of restrictions on the industrial sector. These were in the form of location, capacity, products, investments, number of workers, and so on. In 1991, all restrictions except those related to environment were removed and the industry is given the freedom to choose their own location, product-mix and size. The practice of phased-manufacturing was also removed allowing the firms to grow faster.

e. Revamping of Public Sector: The public sector units (PSUs) which are supposed to play a pivotal role in industrial development became a drag on the economy due to the massive losses incurred by them. As part of public sector reforms, government proposed disinvestment in these units. A Disinvestment Board was set-up to advice the government on the units that are to be disinvested. Surpluses that generated are to be used for setting up of National Renewal Fund for promotion of industrial sector. The government also granted functional autonomy through the Nava Ratna Scheme to profit making PSUs.

f. Promotion of Small Scale Industries: The government introduced a comprehensive Act for the promotion of small and marginal units. It allowed higher investment in this sector and also reduced the number of items reserved for this sector.

Appraisal of the New Industrial Policy 1991 :

It is apparent that the reforms in the industrial sector are a mixed bag of fortunes. While the variety and volume of consumer goods improved, a lot remains to be desired. Following are some of the observations on the NIP 1991:

1. The Indian industry at last started showing signs of technological improvements. There are many foreign companies that started production in India itself.
2. The industrial structure is quite diversified with emphasis on innovations and price competitiveness. India emerged as the second fastest growing economy of the world.
3. There is considerable decline in the role of public sector. However, the private sector did not take the necessary lead in the development of the economy.
4. Regional disparities increased significantly after 1991. Only a few states like, Gujarat, Tamil Nadu, National Capital Region of New Delhi have seen the setting up of new industrial units.
5. The casualisation of labour is the main adverse consequence of the LPG strategy. The earnings of the labour have not kept up with the increase in productivity.

15.4 SMALL SCALE INDUSTRIES POLICY

The small-sector plays an important role in the Indian economy. This sector has been traditionally the largest provider of employment after agriculture. Small Scale industries are an important component of the Indian industrial sector. This sector is considered to be labour-intensive and require lesser capital per unit of output and labour. According to the latest definition, they cover both manufacturing and services enterprises. Based on the capital investment, they are defined as under:

A. Manufacturing Enterprises are defined as: i) A unit with an investment not exceeding Rs.25 lakh is defined as a micro enterprise. ii) A unit with an investment between Rs. 25 lakh and Rs. 5 crore is defined as a small enterprise. ii) A unit with an investment between Rs. 5 crore and Rs. 10 crore is defined as a medium enterprise. B) Service Enterprises are defined as: i) A micro unit is defined as one with an investment in equipment not exceeding Rs. 10 lakh. ii) A small enterprise has an investment ceiling of up to Rs. 2 crore. iii) A medium enterprise has an investment ceiling of Rs. 5 crore. When a unit is registered with the District Industries Centre, it is known as registered unit. All units using 10 workers with power or more than 20 workers without power has to necessarily register.

D. 1. Role of Small Scale Industries in Indian Economy

The SSI sector has important bearing on the economy. We can see its role in terms of the following :

a) Contribution to Industrial Production :

The number of SSI units increased from 0.87 million in 1980-1 to 7.35 million in 1992-3 and to a further 12.84 million by 2006-07. The number of units increased at an annual rate of 4.06 percent. During the same period, output increased from `. 28,100 core to `. 84,413 crore and to `. 5,85,112 crore. The output at 1993-94 prices rose by 11.56 percent. Thus, the SSI recorded a higher growth than the large industries and account for nearly 39 percent of industrial output.

b) Contribution to Employment :

The SSI units are an important source of employment for the semi-skilled and un-skilled labour. The Third Small Scale Industries Survey of 2001-02 indicated that the employment potential of SSI is larger at 7 times that of the large industries for an investment of ` One lakh. The total employment in this sector rose from 7.10 million in 1980 to 17.48 million in 1992-93. By 2006-07, employment in SSI increased to 31.25 million. The employment growth rate is also higher at 3.97 percent when compared to the large industries. If we consider the high incidence of chronic unemployment among the rural labour force, this sector becomes an important source of non-farm employment.

c) Contribution to Exports :

The SSIs are an important contributor to the exports. During 1991/2 and 2005/6, exports of SSI in dollar terms recorded an annual growth rate of 11.58 percent. In 2005-06, they accounted for exports worth `. 1,50,242 crore or US$ 33,935 million. The exports to output ratio of SSI increased from 17.22 percent in 1991-92 to 30.18 percent in 2005-06. This growth has been sharp after 2001 indicating the success of the policy initiatives since 2000. The exports of SSI recorded a marginally higher growth than its output. Thus, the performance and problems of the SSI have an important BOP implications for India. Most of the SSI exports are the fast growing manufactures like jewellery, hand tools, sports goods, leather manufactures and so on.

d) Mobilisation of Capital and Entrepreneurial Skills :

The most important role of this sector is in that it allows individual initiative and risk-bearing qualities to find expression in productive activities. This can be seen in their spread across the country and providing job opportunities so many un-skilled and semi-skilled workers.

D. 2) Problems of the SSI:

However, all is not well with the SSIs. The following are the major problems that the SSIs are facing in India :

1) Problem of Sick Units: The SSIs experience rampant sickness. Between 1991 and 2005, the number of sick SSIs has actually declined from 2,21,472 units to 1,38,041 units. Sickness of SSIs peaked in 1999 when 3,06,221 units were reported sick. The credit outstanding in their account rose from ` 2,792.04 cr to ` 5,380.13 cr, recording an annual increase of 4.65%. There is no proper mechanism to revive and rehabilitate the sick units.
2) Shortage of Raw Materials: The SSIs are not in a position to acquire reliable local raw materials. At the same time, the trade policy generally favoured the large industries in granting licenses to import raw materials. As a result of this shortage, they can not meet the production deadlines; maintain their quality levels, causing them to lose their customers and markets. This leads to the eventual sickness of the units. Under the economic policy reforms introduced in 1991, the SSIs are forced to face much tougher conditions in procuring raw materials and other inputs. Thus, the government should put in place a system of addressing these difficulties effectively.
3) Problems of Marketing: These units are scattered and operate on a limited scale. As a result, they cannot enjoy the economies of scale in both procuring of raw material and selling of the final output. They find it difficult to obtain credit and discounts on the purchase of inputs. As a result, they are forced to pay higher prices for their inputs and realise lower prices. This is an important cause of the sickness among the SSIs.
4) Labour and Management Problems: Many of the SSIs face the problem of labour unrest. They have to contend with low-skilled labour. This results in lower productivity and higher costs of production. The demand for bonus, wage increases are also common. Frequent strikes and other forms of industrial unrest cause loss of production. As these units are mostly family-run, they are not managed by trained staff. Decisions are taken on a case-to-case basis and there is a lack of long-term vision on the nature of production, diversification and marketing strategy.
5) Technological Problems: It has been observed by J. C. Sandesara, that the SSIs adopt capital-intensive techniques to avoid labour problems. They prefer to import new technology rather than to develop existing technologies. When the government allows them to, they opt for more capital- and import-intensive technologies. As a result, the SSIs are forced to rely upon more and more imports, which also contribute to their production problems.

6) Lack of Adequate Credit: It has been observed by M. R. Narayana that after the introduction of economic reforms in 1991, the commercial banks have become risk-averse and are keeping away from the SSIs. The commercial banks have failed to meet their targets of SSI lending for the last 15 years. As credit gets squeezed, the SSIs are facing greater danger of sickness. Further, the commercial banks shy the export credit to the SSI units and thus these units are dependent on private sources for both pre- and post-shipment credit at higher rates of interest.

7) Problem of External Competition: M. R. Narayana further observed that both the government and the SSIs do not seem to be aware of the danger of cheap imports, especially from China. Lack of check on illegal imports, inability to maintain quality and lack of market information are the serious issues which need immediate attention of the policy-makers. Some of the subsidies that are presently available to the SSIs can come under the WTO restrictions under the SCMs. This problem also needs urgent attention.

8) Scale Problems: It has been observed by T. N. Srinivasan that the policy of reservations has itself become a drag on the SSIs. As government reserved items to them, these units are not able to expand their output even when the demand for their products is increasing. As a result, these units are forced to face the prospect of uneconomical scale, higher costs and lesser competitiveness in external markets.

9) Fall in Output per Worker: Since 1990-91, there was a steep fall in output per worker in the SSIs. In 1990-91 ir was ` 1,59,000 per worker and fell to ` 61,000 per worker in 1995-96. There after it made a marginal recovery and reached ` 89,000 per worker in 2004-05. This indicates a fall in the productivity of the labour in the SSIs and calls for urgent remedial measures.

15.5 SMALL SCALE INDUSTRIES POLICY 1991

The watershed in the development of SSI is the policy statement of August 1991. The government adopted a progressive view to develop this sector as a result it announced the increase in the investment limit for the tiny units from ` 5 lakh to ` 25 lakh. Also the locational restrictions were removed. Sandesara observed that this shift from small industries to small business policy is an important development. More importantly, the definition of ‘industry’ is extended to include all industry-related services and business enterprises.

A separate package was announced for the tiny sector with a view to provide continuous support, and for others a one-time

assistance. The premise is that the tiny-sector will become self-supportive after reaching a certain stage of development.

An important legal provision was in concept of 'unlimited liability'. In the earlier policy, all the partners had equal liability. This found to discourage the friends and family members of small entrepreneurs from providing capital. In order to make investments in SSI attractive, the government introduced the provision of unlimited liability to only one partner. All other partners have a limited liability equal to their share capital. This would encourage the SSI to attract capital.

The technological up gradation and product development in the SSI needs the support of the large industries. In order to promote the process of technological transfers, the government allowed the large industries to participate up to 24 percent of equity in the SSI. This also allows the infusion of new liquidity in this sector.

A National Equity Fund (NEF) is set up to cover the larger units among the SSI.

The government accorded priority to the SSI in allocating indigenous raw materials.

The government set up a separate Market Development Fund for the SSI and the tiny sector products. In 2006, a Market Development Assistance (MDA) Scheme was initiated exclusively for the SSIs.

In March 1994, the Integrated Infrastructure Development Centres (IIDCS) was introduced. This scheme allows the allocation of industrial plots to the SSI units on a priority basis.

The Ninth Five Year Plan also continued with the emphasis on SSIs. It proposed the strengthening the financial base of the Sate Finance Corporations (SFCs) and the Small Industries Development Organisation (SIDO). It proposed setting up of specialised commercial bank branches to cater to the credit needs of the SSIs. Further the Local Area Banks (LBAs) were set up to co-ordinate the activities of the manufacturers associations. Further, efforts were initiated to provide SSIs with more funds from the non-bank finance companies.

(A) COMPREHENSIVE PACKAGE 2000

This was announced on August 30, 2000 and contained proposals to revitalise the SSIs. The following are some of the important provisions :

1. The excide duty exemption limit was raised to Rs. One crore. This limit was increased to Rs. 4 crore in 2006.
2. The capital subsidy was increased to 12 percent and subsequently to 15 percent in 2006.This would facilitate technological up gradation.
3. The composite loan limit was also raised to ` 25 lakh and to ` One crore for SSI units with good track record.
4. The Integrated Infrastructure Development Scheme (IIDS) was extended to cover the entire country with a provision for 50 percent reservation for rural areas and 50 percent plots were reserved for the tiny sector units.
5. The cabinet Secretary will head a group to review and recommend the necessary legal framework for the efficient functioning of the SSIs. As a result of the consultations with the entrepreneurs and the SSI associations, the Micro, Small and Medium Enterprises Development (MSMED) Act 2006 was enacted to provide a comprehensive legislation to facilitate the orderly development of this sector.

(B) OTHER MEASURES :

In addition to the above measures, additional policy initiatives were also taken :

a) The SSI investment limit was raised to ` 5 crore in 2006.

b) The Credit Guarantee Fund (CGF) Scheme was extended to cover up to ` 50 lakh for SSIs and up to ` 5 lakh for micro enterprises. Higher loan amounts are allowed for women entrepreneurs.

c) Various studies observed that the practice of reservation has undermined the profitability of the SSIs by limiting their size. Therefore, the list of items reserved for SSIs was gradually reduced from 847 to 14 during 1991-2007.

d) SSI units with a good track record were allowed collateral free loans up to ` 25 lakh and the credit limit on Laghu Udyami Credit Card was increased to ` 10 lakh for such units.

e) The SIDBI is operating the Small and Medium Enterprises Fund of ` 10,000 crore since April 2004 to provide loans to SSI units at 2 percent below its PLR.

Micro, Small and Medium Enterprises Development (MSMEC) Act 2006 :

In 2006, the MSMED Act was passed to provide a legal framework for firms that are involved in both manufacturing and services to the economy. This Act established a consultative

framework at the national level for better co-ordination of the policies that are aimed at promoting the small industries. The main features of this Act are as under:

a) Setting up of special funds for the promotion, development and enforcement of competitiveness of the small units.

b) Notification of schemes/programmes for their development.

c) Pursuing progressive credit policies and practices for the development of micro, small and medium units.

d) Providing preferential treatment in government procurement to these units, and

e) Simplifying the procedures for the closure of sick units.

(C) APPRAISAL

The performance of the SSI units improved significantly after the introduction of these various measures. Some of the important outcomes of this were :

1. The incidence of sickness has come down from about 31 percent to about 9 percent during 1991-2007.
2. The product profile of these units improved significantly. But they continue to concentrate on low-end labour-intensive manufacturing and thus, their growth is severely constrained. This also impaired their export performance.
3. Despite the various measures initiated by the government, these units have to put up with regulations and bureaucratic discretions. They are thus forced to incur a number of costs in securing the benefits that the policies proposed. The performance of the 'Single-Window' scheme is at best dubious.
4. Though the credit flows from the commercial banks improved, these units are still starved of the vital working capital requirement. This forces many of them to borrow from the non-institutional sources that add to their financial burdens.
5. An important problem is the quality aspect. Since the testing facilities are inadequate, they are forced to produce and sell products that are of indefinite quality. This is found to be a severe constraint on the exports.

   It is a tribute to the entrepreneurial skills of these units that they continue to out-perform the large scale industry despite all the institutional and bureaucratic restrictions.

15.6 SUMMARY

1. After forty years of planning, the dismal performance of industrial sector forced the government to change the strategy and opt for liberalisation in 1991. A new set of policies were

adopted that aimed at encouraging the private enterprise and promote industrial activity.

2. There is considerable volatility in the production of all major industrial groups. This volatility not only results in industrial distortions, but also generates inflationary pressures on the economy. The overall index is lower than that of the pre-reform period.
3. The New Industrial Policy (NIP 1991) aims at integrating the Indian industry with the global economy and facilitate the gains from international division of labour. The watch words of this policy are: “liberalisation”, “privatisation” and “globalisation”.
4. The small-sector plays an important role in the Indian economy. This sector has been traditionally the largest provider of employment after agriculture. Small Scale industries are an important component of the Indian industrial sector. This sector is considered to be labour-intensive and require lesser capital per unit of output and labour.
5. The government adopted a progressive view to develop this sector as a result it announced the increase in the investment limit for the tiny units from ` 5 lakh to ` 25 lakh. Also the locational restrictions were removed. More importantly, the definition of ‘industry’ is extended to include all industry-related services and business enterprises.
6. The Comprehensive Policy Package was announced on August 30, 2000 and contained proposals to revitalise the SSIs.
7. In 2006, the MSMED Act was passed to provide a legal framework for firms that are involved in both manufacturing and services to the economy. This Act established a consultative framework at the national level for better co-ordination of the policies that are aimed at promoting the small industries.

15.7 QUESTIONS

1. Explain the trends in industrial production since 1991.
2. What are the main features of New Industrial Policy 1991?
3. What are the achievements and failures of NEP 1991?
4. Examine the role of small scale sector in the Indian economy.
5. What are the major problems that are faced by small scale units?
6. Examine the measures initiated to promote small scale sector after 1991.

16

COMPETITION ACT 2002 AND SERVICES SECTOR IN THE INDIAN ECONOMY

Unit Structure :

16.0 OBJECTIVES

- To understand the features of Competition Act of 2002
- To understand the significance of service sector to Indian economy

16.1 COMPETITION ACT

Economic reforms led to a change in thinking that the process of globalisation calls for the establishment of free market economy and that the focus of economic policy should not be confined to curbing monopolies but to allow enterprise to meet competition both from within the country and outside. The role of the State changes from that of a regulator to that of a facilitator of economic activity. An important step in this direction is the enactment of the Competition Act 2002. The core objective of the Competition Act of 2002 is to promote the competitive process in the Indian economy. The following are the objectives of the Act:

1) To prevent practices that have a negative effect on competition;
2) To promote and sustain competition in the markets; and
3) To protect the interests of the consumers and to ensure freedom of trade.

The Competition Commission of India (CCI) is set up to promote the competitive process in the Indian economy. It has eleven members appointed by the government. The Commission has the powers to regulate its own procedures is not bound by the Civil Procedure Code. It operates on the principle of natural justice and is subject to the procedures laid down by the Government of India. The Commission shall treat all information about any enterprise as confidential and ensure that the commercially sensitive information is not used to harm the interests of the concerned enterprise.

The Act is based on the findings world over that competition among the producers promotes consumer welfare and ensures the optimum use of resources. This is also in line with the fundamental right to carry on any trade or business that is enshrined in the Constitution. The Competition Act recognises certain acts on the part of producers as anti-competitive and prohibits/ regulates them to ensure competition in 'the relevant market'. While there is no precise definition of 'the relevant market', the Commission is empowered to decide with respect to the relevant product market or the relevant geographical market or with respect to both the markets. These are defined in terms of the regulatory trade barriers, local specification requirements, distribution facilities, import tariffs, legal and cultural traditions, consumer preferences and the need for secure and regular supplied or rapid after sales services. Once the Commission decides up on the following three acts on the part of the producers, it declares such practices as prohibitive and issues orders to repel them including the provision for payment of financial damages :

1) Anti-competitive Agreements,
2) Abuse of Dominant Position,
3) Combinations.

In this connection, the Indian Act is supposed to be inline with the international best practices. We shall examine each of these and the legal provisions to prevent/regulate them as envisaged in the Act.

1) Anti-competitive Agreements :

Section 3 of the Act defines any agreement with respect to the production, supply, distribution, storage, acquisition or control of goods or provision of services which causes or is likely to cause an appreciable adverse effect on competition within India as anti-competitive and thus shall be void. Such an agreement could be written, unwritten, formal or informal. Under this section five acts are declared as void. The various practices that are prohibited under the Competition Act are, those related to limiting and

controlling production, and supply; technical development; sharing the market or the source of production; allocation of geographical market; price fixing; tie-in agreements; refusal to deal with a particular dealer or buyer; resale price maintenance where an agreement to sell goods on the condition that the prices to be charged on the resale by the purchaser shall be the prices stipulated by the seller; and so on.

The Act exempts the intellectual property rights (IPRs), rights under the Patent Act of 1970, the Copyright Act of 1957 from its purview. It also exempts agreements related to export of a product from India.

2) Abuse of Dominant Position :

Section 4 of the Act spells out the provisions regarding the abuse of its dominant position in 'the relevant market' by a firm. Dominant position is explained as 'a position of strength which enables a firm to operate independent of the competitive forces in the market; affect its competitors or consumers in its favour'. India also uses the market share of the enterprise as a ready measure of dominance in the market. It also considers the size and resources of the enterprise, economic power over the rivals, entry barriers in the market and dependence of consumers on the enterprise to define dominant position.

Abuse of dominant position is defined in terms of predatory pricing, limiting or restricting production or technical or scientific development, denying market access, imposing supplementary obligations that have no connection with the subject of the contract, or using the dominance in one market to enter into or protect another market. The list of abuses is exhaustive and not merely illustrative.

3) Regulation of Combinations :

Section 5 of the Act defines a combination as one that 'includes an acquisition, acquiring of control and any merger or amalgamation'. The Combination is defined in terms of size-related thresholds and only the firms above these limits are subject of the jurisdiction of the Commission. These thresholds are subject to periodic review by the government. The following are the existing thresholds:

Group Status	Geographical Coverage	Threshold Limit
No Group	India	Assets: `. 1,000 crore Turnover: `. 3,000 crore
	World-wide	Assets: U.S.$ 500 million Turnover: U.S.$ 1,500 million
Group	India	Assets: `. 4,000 crore Turnover: `. 12,000 crore
	World-wide	Assets: U.S.$ 2 billion Turnover: U.S.$ 6 billion

The Act defines turnover to include the value of sales of goods and services and assets to include intangibles like value of goodwill, copyrights, patent and trademark. Though there is no specific mention of joint ventures, they can become subject to scrutiny if they satisfy all the conditions of Section 5.

The Act provides under Section 6 the following provisions: a) No person or enterprise shall enter into a combination that causes or is likely to cause an appreciable adverse effect on the competition in the relevant market in India; b) a notice is to be given to the Commission disclosing the details of the proposed combination within seven days of approval by the board of directors or execution of any agreement for acquisition or acquiring of control.; c) if any merger or acquisition is likely to cause actual or potential adverse effect, the Commission has to give its decision within 90 days of notification or else, the combination shall be deemed as approved.

4) Competition Advocacy :

The Competition Commission of India is mandated to take suitable measures for the promotion of a competitive environment for economic activities by means of non-enforcement mechanisms and by creating awareness and imparting training about competition issues and activities to strengthen the competition culture in the market. It is important to note that enforcement and advocacy are mutually reinforcing. Competition advocacy is compliance without enforcement.

5) Other Provisions :

a) Remedies and Leniency : The Act provides for the remedies that the Commission can order in case of anti-competitive agreements and the abuse of dominant position. The Commission

can order the persons or enterprise to 'cease and desist' in such cases. It can also impose a penalty not exceeding 10 percent of the average turnover of the preceding three years. In case of a cartel, the Commission can impose a penalty up to 10 percent of the turnover or three times the amount of profits made out of the cartel agreement, whichever is higher. It can recommend to the government to divide an enterprise enjoying the dominant position. It can award compensation for any loss or damage suffered as a result of any contravention of the provisions of the Act on the three grounds of non-competitive behaviour by a person (s) or enterprise. It can even punish the persons guilty of such acts of contraventions. In case of cartels, the Act provides for leniency to the first party that makes the full, true and vital disclosure before the investigations into the cartel.

b) Regulated Sectors : the Commission has jurisdiction over all the sectors of the economy. When a separate sectoral regulator exists, it can make a reference to the Commission about the three acts of contravention. The Commission shall give its opinion within 60 days after hearing the parties. But the sectoral regulator is not bound by the opinion of the Commission about the contravention.

c) Exemptions : The Act excludes all activities carried by the government dealing with atomic energy, currency, defence and space from the application of the provisions of the Act. However, the Indian law is considered to be weak in protecting the state activities of commercial nature. The Act also exempts the intellectual property rights (IPRs), and export trade from the anti-competition provisions. The government can also notify further exemptions.

d) Extra Territoriality : Section 32 of the Act provides for the Commission to inquire into an agreement or abuse of dominant position or combination if the act has taken place outside India. This is based on 'the effects doctrine' which allows supporting the extra-territorial jurisdiction. The Commission can, under Section 18 of the Act, enter into memorandum or agreement with any agency of any country with the prior approval of the government to inquire into such cases. In this case, the Indian Act is in conformity with the provisions of the USA and the EU. This ensures that the Commission can prevent any anti-competitive act perpetrated outside India.

6) Competition Amendment Bill 2006 :

The Supreme Court made certain observations about the Competition Act and they were incorporated in the 2007 Amendment. They are as under:

i) A statutory regulator can suo motto make a reference to the Commission for its opinion and after receiving it opinion, must give reasons for not accepting the Commission's views.

ii) The Commission on its own can order the division of a dominant enterprise.

iii) The leniency treatment will be extended to the parties that have subsequently provided information about the cartel. This facility is valid till the investigation report is made.

iv) The state governments will also be able to make a reference to the Commission.

v) A Competition Appellate Tribunal is to be set up to hear and dispose appeals against any direction issued or decision made or order passed by the Commission. It also is to be empowered to decide on the claims for compensation that may arise from the findings of the Commission. The Commission will have no power to decide on the compensation claims.

vi) It is mandatory to give a prior notification of a combination instead of an option as per the existing rules.

vii) Provide complete amnesty to the first firm that gives enough evidence to the commence an investigation and reduced penalties it they continue to collaborate in the investigations against the remaining members of the cartel.

The Supreme Court observed that since the Commission performs a judicial function, it should have judges on its panel. Further, it is suggested that the Competition Appellate Tribunal can be approached only after the Commission has determined a violation of the Act has taken place and not before that. The Indian Act is considered to be weak in protecting the research and development efforts. In this case, the EU rules provide for exemption from the application of dominant position provisions for the firms that enter into agreements related to R&D. In the Indian case, the Act does not specify the grounds on which the Commission can grant exemptions. The government, and not the Commission, is given the authority to grant exemptions. In the EU the law specifies the provisions for block exemptions. The clause to use 'public interest' as a ground for exemption is too vague and there are no clear cut procedures laid down in the law on this. The Indian Act also does not provide for the Commission to take independent decisions and its membership is decided by the government only. In a recent case, the Supreme Court took objection to the appointment of the retired Commerce Secretary to the Commission since it results in a conflict of interests.

16.2 COMPARISON BETWEEN MRTP ACT AND COMPETITION ACT

The Competition Act of 2002 differs significantly from the MRPT Act that the government used from 1969 to 2002. Following are some of the important differences between the two:

a. The national monopolies were defined in terms of assets commanded by an industrial house. In case of Competition Act, it is defined in terms of the restrictive trade practices used by a firm or group of firms to prevent the free play of market forces.

b. Product monopolies were defined in terms of share in the market. While in the later it is defined in terms of agreements related to the production, distribution, storage and acquisition or control of goods and services that may cause adverse effects on the working of the markets.

c. In case of the former, prior permission of the government is needed for substantial expansion is planned through issues of fresh capital, or purchase of new capital equipment. Prior permission is also required for the establishment of new undertakings, mergers, acquisitions, and amalgamation of other firms. The MRTP Act acted in tandem with the FERA Act. In case of the Competition Act, no such permissions are required. It only aims at prohibiting the abuse of dominant position, defined as capability to operate independently of the market forces and effects the other market players. It aims at controlling the combinations rather than prohibiting them.

d. While the MRTP Act does not allow any oligopolies, the Competition Act prohibits the abuse of the dominant position that firms obtain through monopolies.

e. The MRTP Chairman is appointed by the government and as a result, the independence of the office is doubtful. The Competition Commissioner of India is selected by a collegiums and thus enjoys a higher degree of independence.

f. The MRTP Act does not contain any provision for the punishment of the offenders. The Competition Act proposes punishment to the abuse of the market. Thus, the later is more effective than the former.

g. The MRTP Act omits the restrictive practices while the later focuses on the importance of restrictive practices and provides for punishing the offenders.

16.3 SERVICES SECTOR IN INDIAN ECONOMY

Service sector refers to a) Construction, b) Trade, hotels, transport and communication, c) Finance, banking and insurance, and d) Community and personal services. In an advanced economy, the share of services in GDP would high. In other words, as the economy progresses, the share of this sector in the national economy would be increasing. In case of India, this is a clear indication to the structural changes that the economy witnessed since 1991. The following Table shows the trends in the output of different sectors in the Indian economy between 1990-91 and 2012-13.

Table 16.1: Components of GDP during 1990-91 and 2012-13 (`Cr. at current prices):

Year	Gross Domestic Product (GDP)	Agriculture and Allied Activities	Industry	Services
1990-91	5,15,031	1,50,800	1,10,760	2,53,472
2000-01	19,25,017	4,49,515	3,92,138	10,83,313
2005-06	32,75,670	6,15,844	6,77,946	19,81,879
2010-11	72,66,967	13,06,942	14,07,850	45,52,175
2012-13	94,61,013	16,44,834	16,69,114	61,47,064

Source: Reserve Bank of India: 'Handbook of Statistics Relating to Indian Economy 2008-09.

The value of GDP originating in the service sector has seen a remarkable increase since 1990-91. As can be seen in the above table, the share of service sector in GDP rose from 49 percent. to 56 percent of the GDP in 2000-01. In 2007-08, it accounted for 61 percent of the GDP. During 1991-92 and 2007-08, the service sector recorded an annual average growth rate of 8.17 percent. During this period, the GDP grew at only 6.42 percent. Thus, in the nineties, the service sector at a much faster rate than industry and agriculture.

All the four sub-sectors within the services did not post uniform growth. This calls for some further analysis of the trends in the growth of service sector, especially after the introduction of economic reforms in 1991. Table 16.2 shows the shares of different sub-sectors during 1991-92 and 2007-08.

Table 16.2: Output and Shares of Service Sectors during 1991-92 and 2012-13 (`Cr. Constant Prices)

Year	Service Sector	Construction	Trade, Hotels, Transport and Communication	Banking, Finance and Insurance	Personal and Social Services
1991-92	6,02,569	67,696	2,03,897	1,27,079	2,03,897
2000-01	10,46,299	1,08,362	4,15,650	2,43,048	2,79,239
2005-06	15,95,818	1,84,255	6,86,738	3,59,942	3,64,883
2012-13	37,09,640	4,30,277	15,32,034	10,30,684	7,16,645

Source: Reserve Bank of India: "Handbook of Statistics Relating to Indian Economy 2012-13.

From the above table we can see that the growth in the service sector is not uniform. Trade, Hotels, Transport and Communication saw the highest annual growth at 9.29 percent followed by Banking, Finance and Insurance at 8 percent. Construction posted an annual growth of 7.85 percent followed by Other Services at 6.64 percent.

The factors that explain this phenomenal growth of service sector are studied by E. D'souza. According to him, as the economy progresses, the role of supportive services becomes important. As a result, the share of services in value added will see an increase. Thus, the growth of services is related directly to the growth of manufacturing and agriculture also. IT-enables production techniques are one example of this phenomenon. The Reserve Bank also arrived at similar conclusions in 2000. It would be interesting to examine the income and price elasticity of demand for service sector. Estimations of these elasticities using the GDP at constant prices (1990-2000 prices) and the wholesale price index (1999-2000 =100) gives us the following results:

Table 16.3: Income and Price Elasticities of Service Sector (1991-92 to 2007-08).

Sector	Income Elasticity	Price Elasticity
1. Total Services	1.259	1.385
2. Construction	1.224	1.313
3. Trade, Hotels, Transport and Communication	1.426	1.573
4. Banking, Finance and Insurance	1.235	1.361
5. Community and Personal Services	1.025	1.137

Source: Calculated on the basis of data given in 'RBI: Handbook of Statistics Relating to Indian Economy 2008-09'.

From the above table we can see that the Trade, Hotels, Transport and Communication is the most income and price sensitive sub-sector. This result is consistent with the RBI's study that this sub-sector is most income- and price-sensitive.

The employment implications of the growth of service sector can not be directly studied since there are no data on the employment in this sector. The NSSO provides the data on the basis of the different rounds, expressed as share in per 1000 workers. We used the data from these surveys as a proxy for the annual employment in service sector. Our reasoning is that if the share of service sector increases, it indicates that there is a growth in employment in this sector relative to the rest of the economy. It is observed that according to the NSSO data, employment in the service sector increased at an annual growth rate of 0.79 percent. The employment elasticity of principal status in service sector is estimated at 0.101. In other words, a one percent increase in the output in the service sector results in 0.101 percent increase in the employment. This employment elasticity is found to be statistically significant. We present employment by different sub-sectors of services for selective years.

Table 16.4: Sectoral Employment by Current Daily Status (CDS) (in million) 1993-4 to 2004-05:

Sector	1993-4	1999-2000	2004-05
1. Construction	3.63	4.44	5.57
2. Trade, Hotels, Transport and Communication	8.26	11.20	12.62
3. Banking, Finance and Insurance	3.22	4.06	4.61
4. Community and Personal Services	10.50	9.16	9.24

Source: Same as Table 16.3

From the above table we can see that Trade, hotels, transport and communication is largest employer among the service sector followed by community, and personal services. The decision not to make recruitments in the central government during 1997-2000 is considered to be the reason for the fall in the number of workers in this sector during the early nineties.

In this context it is important to remember that the growth of the service sector can not be in isolation from the rest of the economy. The balanced growth of all the three sectors is essential for the long-run growth of the economy. Also, the inequalities of income and wealth, consumption standards will have telling effect on the growth of the service sector. It is also important to note that this sector is also skewed in terms of payments and remunerations. The more skilled get salaries and other benefits that are often felt unjust by others. The remunerations in the banking sector are a case in this point. It is also felt that the growth of service sector is vital to the objective of creating near-full employment in the economy. Given the low employment elasticity, and the growing casualisation of labour in this sector, this objective is questionable. It is important to note that the phenomenal growth of the service sector in the nineties is a pointer to the potential that this sector has. However, experience of other countries indicates that it is not possible for the service sector to grow faster than the rest of the economy for long. Thus, the growth of service sector is multi-dimensional and needs a careful understanding.

16.4 SUMMARY

1. The core objective of the Competition Act of 2002 is to promote the competitive process in the Indian economy. The following are the objectives of the Act:

   a) To prevent practices that have a negative effect on competition;
   b) To promote and sustain competition in the markets; and
   c) To protect the interests of the consumers and to ensure freedom of trade.

2. Service sector refers to a) Construction, b) Trade, hotels, transport and communication, c) Finance, banking and insurance, and d) Community and personal services. In other words, as the economy progresses, the share of this sector in the national economy would be increasing. In case of India, this is a clear indication to the structural changes that the economy witnessed since 1991.

3. It is important to remember that the growth of the service sector can not be in isolation from the rest of the economy. The balanced growth of all the three sectors is essential for the long-run growth of the economy.

16.5 QUESTIONS

1. What do you understand by monopoly power? Examine the different ways in which it is defined in India.
2. What are the main features of Competition Act of 2002?
3. Examine the main differences between the MRTP Act and the Competition Act.
4. What is the contribution of service sector to India's national income?
5. Examine the factors responsible for the growth of service sector in India since 1991.

17

Module 6

BANKING and MONETARY POLICY SINCE 1991

Unit Structure :

17.0 OBJECTIVES

- To understand the rationale of banking sector reforms introduced in India in 1991 and 1998.
- To understand the main instruments of banking sector reforms.
- To understand the performance of the commercial banks after the reforms.

17.1 BANKING SECTOR REFORMS

The nationalisation of the 14 major commercial banks in 1969 is a significant step in the planned development process of the economy. This culminated in the nationalisation of another six major banks in 1980. The Public Sector Banks (PSBs), as they have come to be known, played an important role in the economic development of the economy by providing banking facilities in remote, un-banked and under-banked areas, extending credit facilities to many marginalised sections of the community. However, the banking system itself was burdened by high defaults, high cost of operations and low profitability. In 1991, the Reserve Bank of India constituted a committee to look into the various issues related to the financial system and to make recommendations to improve the efficiency and profitability of the banking sector. This committee is known as the Committee on the Financial System or the Narasimham Committee. The committee recommended that the

financial system has to address the issue of profitability and an element of competition shall be introduced into the system. The Committee observed that the branch regulations, pre-empting of funds under the SLR and CRR requirements have undermined the profitability of the banking system. Therefore, it recommended that the branch expansion must be free from regulation and that the SLR and CRR must be reduced so that larger funds are available for lending at market rate to ensure the profitability of the system. It further recommended the introduction of prudential norms for banking sector to make it capable of facing the risks arising out of the changing nature of business with more banks now exposed to international risks. It recommended that the interest rates should be de-regularised to reflect the actual cost of funds. It proposed a three-tier banking system with SBI group and a few other banks operating at the international level, banks operating at national level and local area banks. It further recommended that the banks must be allowed to merge to ensure profitability. To maintain the asset quality, the Committee recommended measures to strengthen the regulatory framework regarding the non-performing assets (NPAs). It further recommended that new banks must be allowed to ensure competition and improved services. The Committee further suggested that the banks must be made to adopt information technology (IT) to improve the quality of services.

In 1998, the Committee on Banking System Reforms (Chairman: M. Narasimham) submitted its report on the measures required to improve the working of the banking system. The major recommendations of the committee are: The Committee recommended that the banking system must be re-organised with three or four banks at the national level, which should include the SBI group, and local banks including the RRBs. Abolition of priority sector lending targets, merger of weaker banks, re-capitalisation of the banks, permission to the private sector banks, and privatisation of the public sector banks. Acting on these two reports, the RBI has introduced the following reform measures to improve the profitability and efficiency of the banking system. The banking reforms in India are guided by the domestic expertise and world experience. The reforms are based on non-disruptive progress and consultative process by setting up mechanisms to improve the benefits of efficiency and stability of the system.

1. The first measure in the banking reforms is the abolition of the branch expansion regulations. The commercial banks are now allowed to set up new branches wherever they want. In addition, the RBI allowed restructuring of the staff according to the business of each branch. The RBI also allowed the opening up of ATM centres to facilitate easy banking.

2. The Narasimham Committee observed that the SLR and CRR regulations have led to large-scale pre-emption of bank funds that can otherwise be lent profitably and the RBI acting on this recommendation reduced the SLR to 25 per cent by 2004 from 28.5 per cent in 1991. The incremental SLR was reduced form 38.5 to 27 per cent during this time. The CRR was gradually reduced from 15 per cent in 1991 to 5 per cent by October 2004. Together, these measures are estimated to release ` 48,000 crore for lending to other purposes.

3. Narasimham Committee recommended a Capital to Risk Weighted Assets Ratio (CRAR) of 8% for the banks. The government has made a total budget provision of Rs. 1,100 crore for the banks to adjust the non-performing assets (NPAs) of the commercial banks. RBI prescribed a 9% CRAR to all the banks. All the banks in India have achieved this target. As part of the Basel II Accord, RBI has prescribed a CRAR of 10% to be achieved by 2007. This has considerably reduced the risk for the commercial banks. In Maarch 2008, the RBI issued new guidelines on CRAR norms. The risk weight for advances/securities/overdraft/credit to the state governments shall be zero. In case of gold and jewellery, the market value is to be considered for fixing the risk. In all repo-like transactions, the risk needs to be adjusted upwards. Deposits can also be used as collaterals with zero risk and the explicit consent of the depositor is required for this. Banks like the RRBs, where no CRAR norms are prescribed, are advised to have notional capital adequacy norms. Equities are not allowed as eligible financial collaterals for CRAR requirements.

4. The RBI, acting on the recommendations of the Narasimham Committee asked the banks to reduce their NPAs and created an Asset Reconstruction Fund (ARF) for this purpose. The PSBs'

   NPAs reduced from 11.1% in 1994 to 3.3% by 2006. The passing of Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act of 2002 allows the banks to take over NPAs of banks and financial institutions by asset management companies. This Debt Recovery Tribunals (DRTs) were set up for the speedy settlement of claims under the NPAs.

5. The RBI abolished restrictions on interest rates on all deposits and loans, except the export credit, savings bank and the NRI deposits. Interest rates on all, but the small loans up to Rs. 2 lakh are free to be determined by the markets. This has helped the banking system to operate in a more competitive environment. This measure removed the burden of cross-subsidisation on the banks and helped to improve the profitability by removing 'financial repression'.

6. The public sector banks (PSBs) were allowed to expand their capital base through private equity participation. This helped to introduce greater accountability and efficiency in the banking system. In addition, this helped to restrict the government contribution to recapitalisation to less than one per cent of the GDP and did not strain the central government resources.

7. By allowing 12 new private sector banks to be set up, FDI up to 74% and reducing the central government share to 51% of the PSB capital, the RBI brought a greater degree of competitiveness in the banking sector.

8. The consolidation of the banking sector was made possible by allowing reverse merger of development finance institutions with their commercial bank subsidiaries as in the case of ICICI and IDBI. The RBI has also issued guidelines on the merger of commercial banks to ensure their profitability and operational efficiency.

9. The RBI has set up the Board for Financial Supervision (BSF) in 1994 to provide direction on regulatory policies and supervisory practices in an integrated manner. The Board for Regulation and Supervision of Payment and Settlements System (BPSS) looks after the regulation and supervision of settlements and determines the criteria for membership to these systems. In order to ensure efficient functioning of the banks, the prior approval of RBI was made mandatory in all cases where 5% or more shares of a banking company are acquired. In such cases, the RBI reserves the right to supersede the decision of the Board of the concerned banking company. Know Your Customer (KYC) provides the data-base for bank borrowers that can be used to determine creditworthiness of the customers. The Credit Information (Regulation) Act helped to share information on borrowers and reduce spurious transactions. The RBI issued instructions that all applicants for loans above Rs. 2 lakh must be informed of the reasons when their loan applications are rejected.

10. The RBI has improved transparency standards and disclosure standards which provide for informing the public about all cases of penalty imposed by RBI on banks, directions issued on specific matters including those arising out of inspection of banks. This, in light of private equity participation, helped to improve the operational efficiency and reduced the cases of corruption in banks.

11. The RBI has made it mandatory for the banks to obtain acknowledgement from it for all transfers of shareholdings of 5% and more. Such significant shareholders are put through a ‘fit and proper’ test and this is applicable to directors and senior managers of banks. The directors of banks are now required to sign a covenant of role and responsibility. The listed banks are

also required to comply with the governance principles laid down by SEBI. The RBI guidelines on the ownership of private banks help to improve efficiency as well as the diversified ownership.

12. The RBI allowed the banks to lend up to 25% of their tier 2 capital to other commercial banks. They are further allowed to invest up to 5% of total NDTLs in the secondary market.

13. In order to ensure effective functioning of the banks, the RBI initiated measures to promote computerisation. As a result, 'click banking' replaced the old 'queue banking'. More importantly, banks could introduce electronic banking and provide efficient services at lower costs and expand their geographical reach. The use of ATMs, e-banking and e-payments have greatly contributed to the expansion of banking services. Now, nearly 75 percent of the PSBs are using these facilities. The technological reach is observed to be higher among the private sector and foreign banks.

14. The introduction of an effective set of rules, institutions and technology for the transfer of funds is the heart of profitable and efficient banking system. This is known as the payments and settlement system. Under this, the RBI introduced the electronic funds transfer (EFT), the real time gross settlement system (RTGS) to facilitate continuous processing and settlement of funds transfer; the negotiated dealing system (NDS) for the screen-based trading in government securities; the centralised funds management system (CFMS) for providing back-office support and funds transfer.

15. The emergence of retail banking is the most important development in the post-reform period. The RBI allowed banks to provide housing loans, auto finance and educational loans to expand their business. Banks are now allowed to provide insurance facilities as well. Loan syndication allows a group of banks to participate to provide funds for a single loan. This helps better supervision and diversification of risk. Most of the private sector banks are important players in this. In 2001, the Clearing Corporation of India Limited (CCIL) was set up by the SBI and other banks to provide clearing and settlement facilities for government securities and foreign exchange transactions.

The reforms of the commercial banking system have surely improved the profitability and efficiency. However, the reforms have raised some important issues :

1. The commercial banks were found to be shying away from small-scale industry and agricultural sector. The loans extended to these sectors have fallen considerably in post-1991 period.

So much so, during 1991-2004, the commercial banks never met their target of 18% loans to agriculture. Thus banks seem to be risk-averse. They are instead depositing their share of these loans to RIDF accounts and the central government in March 2005 issued special instructions to the commercial banks to concentrate on providing the credit as per the credit policy. Even the PSBs seem to have been caught in this. According to R.A. Mazumdar, this risk-aversion is the greatest adverse effect of reforms. The commercial banking system, which was nurtured since 1969, based on the socio-economic realities of the economy, has been reduced to shambles following the reforms. The banking system is now accused of being guided by profit motive only.

2. The commercial banks are investing the surplus funds released from the reductions in SLR and CRR in government bonds and have not invested in the economy. The fall in the credit-deposit ratios in the 1990s reflects this tendency. Thus, the argument that the high SLR and CRR have pre-empted the investible funds does not seem to hold water.

3. The banking sector reforms have neglected the developmental role of the commercial banks in a country like India. They just cannot go by profit considerations alone. This is seen in the fall in the priority sector lending. Though the RBI rejected the Narasimham Committee's recommendation of abolishing the priority sector lending, it did not effectively ensure the proper flow of funds to this sector after 1991.

4. Though the RBI reports that the profitability of PSBs improved, it does not say how this has happened. More importantly, the autonomy of banks needs careful designing since it can impinge on the nature of the banking system and the role it plays in a developing economy. In this context, the risk-aversion displayed by the banks since the initiation of the reforms should be borne in mind.

5. Allowing the commercial banks to invest in the secondary market can endanger the profitability of the banks since the stock markets are prone to fluctuations. The RBI seems to have ignored the earlier experiences of misutilisation of bank funds for speculative activities on the stock markets.

The real estate lending is also causing strain on the banking system. It is sad fact that the banking sector reforms in India did not learn from the experience of banks in Thailand and other East Asian counties while allowing liberal credit to the reality sector. Fluctuations in property prices were one of the main reasons for the recent failure of so many large banks in the USA.

17.2 PROGRESS OF COMMERCIAL BANKS SINCE 1991

Indian commercial banking sector has seen spectacular expansion in number of branches, volume of deposits, credit created and other parameters. However, this progress was no without its problems. We shall now examine the impact of reforms on the commercial banks.

The number of branches of increased from 60,220 in March 1991 to 1,05,752 by March, 2013. This shows an impressive performance. However, the percentage of rural branches declined from 58.5 to 37.2 percent of the total during this period. Thus, there is a clear indication that the banks are now more focused on profits and seem to have given up the objective of providing services in un-banked areas. The new private sector banks and foreign banks have a clear urban and metropolitan orientation. As these banks increase both in terms of number of branches and business, the semi-urban and rural population may be deprived of the banking services.

The following table shows the progress of commercial banking in India after 1991 in terms of the ownership by different groups.

Table 17.1: Number of Scheduled Commercial Banks in India by Ownership (1991-2012) :

Year	1991	2012
Scheduled Commercial Banks	104	84
State Bank Group	8	7
Nationalised Banks	20	19
Old Private Sector Banks	25	15
New Private Sector Banks	9	7
Foreign Banks	42	36

Source: RBI: Report on Trend and Progress of Banking in India (various issues).

The above table shows a decline in the number of Scheduled Commercial Banks (SCBs) declined after 1991. This is due to the mergers of both the public sector and private sector banks to improve the operational efficiency.

The SCBs in India posted a healthy deposit growth with the introduction of the economic reforms in 1991. The aggregate deposits and credit by the SCBs during selected years are shown in Table 17.2.

Table 17.2: Deposits and Credit by SCBs during selected years (`. Cr.) :

Year	End of March, 1991	End of March, 1995	End of March, 2001	End of March, 2006	End of March,2009	End of March, 2012
Aggregate Deposits	2,30,758	4,33,819	9,62,618	21,09,049	38,34,110	59,09,082
Total Bank Credit	1,25,592	2,54,015	5,11,434	15,07,077	7,15,724	46,11,852
Credit-Deposit Ratio	54.5	58.5	53.1	71.5	72.4	78.0

Source: RBI: Handbook of Statistics relating to Indian Economy, 2009.

The credit-deposit ratio is another important indicator of the efficiency of the banking sector, prior to the introduction of the reforms in the banking sector; most of the funds of the SCBs were used by the government under the Statutory Liquidity Ratio (SLR) regulations. After 1998, this ratio improved with the freeing of funds that were earlier committed to SLR.

The net profits of the SCBs improved from `. 4,504 crore in 1996-07 to `. 52,771 crore in 2008-09. The Public Sector Banks (PSBs) accounted for nearly half of the total profits. Table 17.3 shows the profit ratios of different groups of SCBs during 1996-97 and 2011-12.

Table 17.3: Net Profits to Total Advances Ratios of SCBs (1997-2012)

Bank Group	March 31, 1997	March 31, 2012
Public Sector Banks	0.57	0.88
Nationalised Banks	0.41	0.88
SBI Group	0.41	0.89
Old Private Sector Banks	0.84	1.20
New Private Sector Banks	0.73	1.63
Foreign Banks	1.19	1.76
All Scheduled Commercial Banks	0.67	1.08

Source: RBI: Report on Trend and Progress of Banking in India (various issues).

From the above table we can see that the profits of the SCBs show a definite improvement after the introduction of the economic reforms and allowing the interest rates to move according to the market conditions. The most important fact to be noted is the improvement in the profits of the PSBs. They nearly doubled across all the groups of SCBs.

An important indicator of the performance of a commercial bank is the net profit to the total assets. In this case, we observe that the profit ratio does not snow a clear cut upward trend across the SCBs. Only the new private sector banks posted an improvement. The decline the net profits ratio during 2008-09 is attributable partly to the global slowdown in 2007 and 2008.Table 17.4 shows the net profit to total assets ratios of the SCBs during 1991-2012.

Table 17.4: Net Interest Income to Total Assets Ratio of SCBs in India (1992-2012) :

Year	1992	2002	2009	2012
Scheduled Commercial Banks	10.27	8.26	7.4	8.9
State Bank Group	3.8	8.62	7.0	9.5
Nationalised Banks	2.86	8.78	7.4	9.6
Old Private Sector Banks	5.7	9.36	8.1	9.5
New Private Sector Banks	N.A.	8.56	8.9	10.5
Foreign Banks	11.61	8.26	6.8	9.5

Source: RBI: Report on Trend and Progress of Banking in India (various issues).

An important facet of the economic liberalisation is improvement in the non performing assets (NPAs) of the commercial banks. These loans hold up liquidity and hamper the ability to generate credit. In this direction, the RBI initiated measures like loan syndication and debt recovery tribunals (DRTs) to improve the asset quality of the SCBs. As a result of these efforts, there is a significant improvement in the performance of the banks in India. Table 17.5 shows the NPAs of the SCBs during selected years. From the table we can that the NPAs as percentage of both total advances and total assets registered a decline during 1995-96 and 2006-07. However, following the global financial crisis in 2007 and 2008, the NPAs registered a marginal increase in nominal terms from ` 53,097 crore in 2005-06 to ` 56,435 crore and ` 68,973 crore in gross terms and to `. 24,734 crore and ` 31,424 crore during 2007-08 and 2008-09. However, due to better asset management by the commercial banks and larger provisioning, the net NPAs as percent of net advances came down.

The NPA position of the new private banks and foreign banks worsened. This could possibly due to the fact that these banks cater to the clients in the corporate sector and in services sector. The PSBs performed relatively better with 16 percent increase in their NPAs during 2007-09 compared to the doubling of the NPAs of the new private and foreign banks during this period.

Table 17.5: Gross and Net NPAs of Commercial Banks in India (1996-97 to 2011-12) (in ` crore)

Year	1996-97		2001-02		2005-06		2010-11	
Type of Bank	Gross NPAs to Gross Advances	Net NPAs to Net Advances	Gross NPAs to Gross Advances	Net NPAs to Net Advances	Gross NPAs to Gross Advances	Net NPAs to Net Advances	Gross NPAs to Gross Advances	Net NPAs to Net Advances
All SCBs	47,300 (15.7)	22,340 (8.1)	70,861 (10.4)	35,554 (5.5)	51,097 (3.3)	81,543 (1.2)	97,922 (2.4)	41,813 (1.1)
Public Sector Banks	(17.8)	(9.2)	(11.1)	(5.8)	(3.6)	(1.3)	(2.3)	(1.1)
Old Private Sector Banks	(10.7)	(6.6)	(11.0)	(5.8)	(3.6)	(1.3)	(2.3)	(1.1)
New Private Sector Banks	(2.6)	(2.0)	(8.9)	(4.9)	(1.7)	(0.8)	(2.3)	(0.6)
Foreign Banks	(4.3)	(1.9)	(5.4)	(1.9)	(0.96)	(0.43)	(2.5)	(0.7)

Figures in the parentheses show the percentage values.

Source: Reserve Bank of India: Report on Trend and Progress of Banking in India (various issues).

Another important indicator of a commercial bank's performance is the Risk-weighted Capital to Asset Ratio (RCAR). This is also popularly known as the capital adequacy ratio. This ratio indicates the provisioning for assets of the commercial banks in terms of the risk of default specific to a particular asset of the banking system. These are also known as prudential norms, the asset management of a commercial bank. The RBI has initiated measures to improve the capital base of the commercial banks in India to prepare them adequately for the risk that is contingent on assets of a commercial bank in a globalising economy. As a part of this, the government took initiatives to recapitalise the PSBs. As a result of these initiatives on the part of the RBI and government, the RACR of SCBs improved significantly. In 1995-96, 42 SCBs achieved a RACR of 10 percent or more and 33 banks had a RCAR

of 8 to 10 percent. The average of all SCBs was 8.7 percent in that year. By 2000-01, this ratio improved to an average of 11.1 percent for all SCBs. Only 2 banks had an RCAR of less than 9 percent. 84 of them achieved a capital adequacy ratio of more than 10 percent and 12 banks had between 8 to 10 percent.

The RBI observed in its Report for 2008-09 that, "one significant aspect is that unlike other countries where the adverse loop operated from the financial to real sector, in India the banking sector has got an impact from the real sector. Secondly, the fact that so far, financial sector reforms have been calibrated with a progressive integration into the world economy has paid us rich dividends. A key consideration in the choice of pace and sequencing has been the management of volatility in financial markets and implications for the conduct of monetary operations. The nuanced approach to financial sector reform has served India well with an accent on conscious gradualism in the implementation of coordinated and sequenced moves on several fronts. What have been ensured are appropriate safeguards to ensure stability, while taking account of the prevailing governance standards, risk management systems and incentive frameworks in financial institutions in the country. Overall, these progressive but cautious policies have contributed to efficiency of the financial system while sustaining the growth momentum in an environment of macroeconomic and financial stability. The policy challenge is to continue to ensure financial stability in India during this period of international financial turbulence, while achieving high growth with price stability".

Thus, after the introduction of the banking sector reforms in 1991, the commercial banks in India were resilient enough to face the global financial crises that were experienced in 1998, 2007 and 2008.

17.3 SUMMARY

1. The nationalisation of the 14 major commercial banks in 1969 is a significant step in the planned development process of the economy. This culminated in the nationalisation of another six major banks in 1980. The Public Sector Banks (PSBs), as they have come to be known, played an important role in the economic development of the economy by providing banking facilities in remote, un-banked and under-banked areas, extending credit facilities to many marginalised sections of the community.

2. In 1991, the Reserve Bank of India constituted a committee to look into the various issues related to the financial system and to make recommendations to improve the efficiency and profitability of the banking sector. This committee is known as

the Committee on the Financial System or the Narasimham Committee.

3. In 1998, the Committee on Banking System Reforms (Chairman: M. Narasimham) submitted its report on the measures required to improve the working of the banking system.

4. After the introduction of the banking sector reforms in 1991, the commercial banks in India were resilient enough to face the global financial crises that were experienced in 1998, 2007 and 2008.

17.4 QUESTIONS

1. Examine the rationale of banking sector reforms in India.
2. What are the main instruments of banking sector reforms?
3. Explain the impact of banking sector reforms in India.
4. Examine the progress of commercial banking after the reforms in 1991.

18

RBI's MONETARY POLICY

Unit Structure :

18.0 OBJECTIVES

- To understand the various functions of the Reserve Bank of India.
- To understand the different measures of money supply used by the RBI.
- To understand the causes and control of inflation in India since 1991.
- To understand the recent developments in the monetary policy in India.

18.1 DEVELOPMENT FUNCTIONS OF THE RESERVE BANK OF INDIA

The introduction of Five Year Plans in 1951 led to the RBI to adopt development banking. The following are the important development function that the RBI adopted to create efficient machinery for providing finance needed for economic development. It also created institutions that will ensure adequate flow of funds for different productive sectors of the economy.

1) Establishment of Financial Institutions: RBI was actively involved in the setting up of development finance institutions like the Industrial Finance Corporation of India (IFCI), Industrial Development Bank of India (IDBI), National Bank for Agriculture and Rural Development (NABARD), Unit Trust of India (UTI),

Small Industries Development Bank of India (SIDBI), State Finance Corporations (SFCs) and Deposit Insurance Corporation (DIC). These institutions played an active role in channelising resources to flow into the productive sectors of the economy.

2) Supervision of Commercial Banks: The Reserve Bank of India Act, 1934 and Banking Companies Act, 1949 give the RBI authority on licensing and inspecting of commercial banks operating in India. It is empowered to lay the guidelines for lending policies, amalgamation and mergers of weak banks. It sought to restrict the detrimental control exercised by particular groups of persons on banks. It also played an important role in the consolidation of the State Bank of India group. It played an active role in strengthening the co-operative credit system. With the introduction of the banking sector reforms, RBI sought to promote efficiency and competition in the banking sector. It has also introduced autonomy with accountability, effective risk management systems, operational flexibility, and information systems. It campaigned effectively for the introduction of prudential norms in the banking sector and improving the profitability of the banks. India happens to be one of the few LDCs to fully implement the Basle I norms on banking like the CRAR, bank capitalisation regulations. Due to the statutory audit and inspection system evolved by the RBI, Indian banking system remained free from major crisis.

3) Expansion of Banking Services: RBI used its regulatory authority to ensure the geographical spread of the banking services. Branch expansion regulations ensured that the rural economy is integrated with the national economy and credit is channelised into the priority sectors. As the branch expansion regulations were found to be detrimental to the effective functioning of the banks, the RBI relaxed these norms following the recommendations of the Narasimham Committee. It also liberalised the norms regarding the setting-up of ATMs.

4) Credit Policy Initiatives: The Reserve Bank played an active role in promoting credit to the priority sectors. In addition to stipulating annual lending targets, it introduced the Lead Bank Scheme in 1969. For each district in the country credit targets were set, beneficiaries identified for the provision of productive credit to the needy. It also provided for concessional credit to the exporters on both, pre- and post-shipment basis. The RBI played an important role in the setting-up of the Regional Rural Banks (RRBs). It provided liberal re-financing facilities in addition to providing managerial assistance. Because of these initiatives, credit flows for agriculture, exports and small-scale units improved significantly. In 1971, meet the risk of default in payments of interest and principal for commercial banks the RBI set-up the Credit Guarantee Corporation of India to. Despite the

Narasimham Committee's recommendations to abandon the priority sector lending targets, RBI continues with them.

5) Interest Policy: An important policy imperative in a developing country is to ensure adequate credit at reasonable interest rates. The differential interest rate (DRI) scheme became an important policy plank of the RBI since 1969. This scheme provided for concessional interest rates on priority sector operations. It also sought to regulate interest rate on deposits and lending operations of the commercial banks so that the cost of borrowing to the government is kept at the minimum. However, starting in 1991, the Reserve Bank liberalised the interest rates. Now RBI allows commercial banks to decide on their own deposit and lending rates. This greatly enhanced the market efficiency in reflecting the relative risk of each asset.

18.2 RESERVE BANK OF INDIA'S MONEY SUPPLY MEASURES

The availability of money supply affects the level of economic activity. If there is excess liquidity, it triggers inflationary pressures. Conversely, inadequate liquidity will cause a recession. Thus, traditionally central banks are given the monopoly over the issue of currency. The currency in circulation holds the key to the total money supply. Together with the commercial banks, the banking system determines the total volume of money supply. In order to reflect the changing nature of the Indian economy, in 1998, the Dr. Y.V. Reddy Committee recommended the introduction of new measures of money supply and liquidity. They are as under:

1. Money Supply Measures: The Committee introduced three measures of money supply instead of the traditional four.

M_0 = Reserve Money = Currency in circulation + Bankers' Deposits with the Reserve Bank + Other Deposits with the Reserve Bank.

NM_1 = Currency with Public + Demand Deposits + Other Deposits with the Reserve Bank.

NM_2 = M_1 + Short-term Deposits of Residents

NM_3 = NM_2 + Long-term Deposits of Residents + Call/Term Lending by Financial Institutions.

In addition to these, the RBI also introduced three concepts of liquidity to ensure better monetary management. They are as under:

L_1 = NM_3 + Postal Deposits.

L_2 = L_1 + Liabilities of Financial Institutions.

L_3 = Public Deposits with Non-Bank Finance Companies.

18.3 INFLATION IN INDIA SINCE 1991

Since the introduction of economic reforms in 1991, the inflationary pressures are building-up. A persistent, and high inflation is inimical to the long-run growth and development of an economy. It diverts resources from savings and investment to consumption, promotes production of luxury goods and causes social unrest. Therefore, we shall presently examine the nature of inflation in the post-reform period, examine its causes and assess the various policy initiatives.

a. Trends in inflation: During the first three years of reforms, inflation reached 11.96 percent. Various attempts by the government brought it down to 10.7 percent in the next two years. This inflation was essentially due to high fiscal deficits of these years. During 1996-97 and 2005-06, the economy experienced low rates of inflation largely due to the ability to contain deficits. Petroleum prices were the main source of inflation during these years. Inflationary pressures started building up sicne 2007-08. This was mainly due to the higher economic growth that country was experiencing relative to the rest of the world. After a slight respite during 2008-10, the inflation started to increase once again since March 2010. Thus, the most of the post-reform period saw a high rate of inflation and increasing prices. The macroeconomic stabilisation failed to produce the desired result. For most of this period, rate of increase in the whole sale price index was much higher than the desired 4.5 to 5 percent per annum.

b. Causes of Inflation in India: In India, inflation is both due to the supply and demand factors. We shall first examine the demand factors and then look at the demand side causes.

1. Demand Side Factors: the most important cause is the increase in public expenditure. The central government tried to bring down its expenditure but it was of little use since most of the public expenditure is committed. The share of public expenditure was 28.1 percent of the GDP. More importantly, 45 percent of public expenditure is incurred on on-development activities. The size of the fiscal deficits is simply staggering. During the Eighth Plan period, the deficit was ` 61,134 crore. It rose to ` 1,10,208 crore during the Tenth Plan. In the Eleventh Plan, the total deficit was ` 1,85,552 crore. These deficits will only crowd out the private investment and push the economy into high inflation – low growth syndrome. As India gets integrated with the world economy, these pressures will only be increasing.
2. Supply Side Factors: The major cause of inflation on the demand side is the problem of erratic growth agricultural

production. With increasing population food is the most essential item. As agriculture fails, it causes food inflation. Since 2005, increase in food prices is the major cause of inflation. Adequate attention should be paid to promote agriculture. Hoarding is another major cause of inflation. Since all essential commodities are in short supply, hoarding allows profiteering. The slow and erratic growth in industrial production is also a cause of inflation. The problem of administered prices is also highlighted by economists. In India a variety of subsidies are provided for some reason or other. This increases the burden on the government and the producer is forced to limit his output. In such a situation all essential goods will be in short supply and add to the pressure on prices.

c. Measures to Control Inflation: Government initiated a variety of measures to promote price stability. We shall now examine some of them:

1. The RBI has taken initiatives in this direction. It has taken a strong view of the inflationary pressures. During March 2010 and October 2011, it revised the repo rate 13 times to contain inflationary forces. It also raised the CRR from 4 to 8.5 percent. Continuous open market operations are also used along with sterilization of foreign currency inflows. The RBI is even accused of being overly concerned with the problem of inflation at the cost of growth. But, growth is not possible without price stability as the essential pre-condition.

2. The government has been active in restricting hoarding of essential commodities. It has taken measures to develop storage and warehousing facilities. Measures are also being taken to regulate trade in essential goods by restricting exports.

18.4 RECENT DEVELOPMENTS IN MONETARY POLICY IN INDIA

Monetary policy refers to the deliberate decisions of the central bank about the availability of cash and the cost of credit to achieve a given set of objectives. Since its inception, the Reserve Bank of India (RBI) focused on the objective of price stability. With Independence in 1947, and the beginning of planning in 1951, the objectives of monetary policy became growth-oriented. In 1969, RBI adopted the objective of 'growth with stability'. With the introduction of economic reforms, there was a need to revise the objectives of monetary policy and its instruments. This hassled to the RBI adopting the objective of 'controlled expansion' in 1994. The monetary policy of RBI since 1991 focused on widening and deepening of the financial and foreign exchange markets. As a result of this, the RBI is in a better position to regulate the flow of funds more effectively. According to Dr. Y.V.Reddy, the most

important aspect of monetary policy after 1991 is the move from the direct to the indirect methods of credit control.

a) Instruments of Monetary Policy since 1991 :

In order to achieve adequate expansion of money supply the RBI uses the NM3 as the target variable and the cash reserve ratio (CRR) as the intermediate variable. It also adopted a 'multi-target' method of monetary management with attempts to control the various interest rates in the market. The following are the different monetary policy instruments used by the RBI to achieve its objectives:

1) Bank Rate: This is the rate at which the RBI rediscounts the bill of exchange held by the commercial banks. Despite the efforts of the RBI, rediscounting is not a popular instrument in India. The bank rate, which has been fixed at 6% since 2000, only serves as a bench-mark lending rate.

2) Open Market Operations (OMO): This refers to the sate and purchase of dated government securities in order to influence the funds in the financial system. When there is a shortage of liquidity, the central bank will purchase the securities so that the financial institutions will get cash which can be used for lending. When there is excess liquidity, the central bank will sell the securities and liquidity will flow from the financial system to the central bank. With the introduction of auctioning of securities in 1997, the open market operations have become more effective in regulating the liquidity.

3) Cash Reserve Ratios (CRR): This refers to the percentage of bank deposits held in the form of cash with the central bank. After 1991, the CRR has become an important policy instrument. The RBI has been operating on CRR to influence the surplus funds available with the SCBs. Following the financial sector reforms, the CRR was brought down to 6%. Between 2004 and October 2008, the RBI changed the CRR seven times in order to influence the liquidity of the

SCBs. Effective June 2004, the RBI is paying bank rate as the interest on excess cash reserves of the commercial banks on a fortnightly basis.

4) Liquidity Adjustment Facility (LAF): The most important instrument of monetary policy in India is the liquidity adjustment facility. This was introduced in 1998 following the Narasimham Committee on Banking Sector Reforms. In 2000 this facility was redefined and further modified in 2004.The LAF is to regulate the availability of funds with the SCBs and the money market interest rates. It is also an instrument for sterilization operations. Under this

arrangement, the RBI auctions the dated securities, the interest rate on these is known as the repo rate. When the RBI wants to inject liquidity into the system, it will buy the securities from the banking system and this is known as the reverse repo operations. Since 2000, the inflow of foreign exchange through NRI and foreign institutional investors (FIIs) became destabilizing. More importantly, these funds should not be allowed to enter into the economy because it will create excess liquidity and cause inflationary pressures. Since 2004, the RBI started auctioning the dated securities and holds the entire proceeds in a separate account of the central government. This scheme is known as the Market Stabilisation Scheme (MSS). In 2007-08, the RBI sterilised more than Rs. 52,000 crore with the help of this scheme.

5) Abolition of Selective Credit Controls : Starting with 1991, the selective credit controls were slowly dismantled. In 1998, with the deregulation of the deposit rates except the savings bank and all lending rates, except for loans up to Rs. 2 lakh, all the credit operations became market determined.

18.5 APPRAISAL

1. The RBI is considered to be one of the few successful central banks in promoting economic growth with reasonable price stability. This is more so during the 1970s and 1990s when the price stability was seriously undermined. India escaped the 1997 Asian Contagion and the recent global slowdown.
2. From 1991, the RBI adopted multiple instruments targeting by ensuring the orderly development of money market and foreign exchange market.
3. According to Balakrishnan, in the 1990s, the monetary policy failed on its mandate. This is because, during the nineties, the real PLR was increasing and as a result, the real private sector investment has declined. Thus, the 1990s were ‘the decade of missing monetary policy’.
4. It is estimated that the sterilisation operations are causing interest liabilities equal to about 1.2% of the net inflows and this needs to be lowered.

18.6 SUMMARY

1. The introduction of Five Year Plans in 1951 led to the RBI to adopt development banking to create efficient machinery for providing finance needed for economic development. It also created institutions that will ensure adequate flow of funds for different productive sectors of the economy.

2. In 1998, the Dr. Y.V. Reddy Committee recommended three measures of money supply viz. NM_1, NM_2, NM_3. In addition to this, the RBI also introduced three concepts of liquidity to ensure better monetary management such as, L_1, L_2, and L_3.

3. Since the introduction of economic reforms in 1991, the inflationary pressures are building-up. A persistent, and high inflation is inimical to the long-run growth and development of an economy. It diverts resources from savings and investment to consumption, promotes production of luxury goods and causes social unrest In India, inflation is both due to the supply and demand factors. Government initiated a variety of measures to promote price stability.

4. The monetary policy of RBI since 1991 focused on widening and deepening of the financial and foreign exchange markets. The most important aspect of monetary policy after 1991 is the move from the direct to the indirect methods of credit control.

18.7 QUESTIONS

1. Explain the important development functions of the RBI.
2. Examine the various causes of inflation since 1991.
3. Briefly explain the different measures to contain inflation in India.
4. Examine the recent developments in RBI's monetary policy.